U.S. EPA TECHNOLOGY FOR THE DESIGN OF LANDFILL DISPOSAL FACILITIES FOR HAZARDOUS WASTE

Environment Ontario

Jim Bradley
Minister

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Technology and Site Assessment Section
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EXECUTIVE SUMMARY

This report describes statutory requirements for minimum technology at hazardous waste landfills in the United States (U.S.). The U.S. Congress stipulated these minimum technology requirements in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA). This report also describes the regulatory requirements which the U.S. Environmental Protection Agency (EPA) has developed under its authority in the RCRA. The regulatory requirements include and expand on the statutory requirements. An up-to-date compilation of the regulations is published every six months in the Code of Federal Regulations (CFR).

The U.S. regulations require, at a minimum, two or more bottom liners in series each with a leachate collection system immediately above it. They require a final cover to limit the entry of water into a landfill where the water could come in contact with the wastes to become leachate. The effect is to encapsulate the wastes and thereby minimize the rate of leachate production. What leachate that does occur must be collected and treated before disposal. Leachate collection and treatment is required to continue until the end of the post-closure period or until leachate is no longer detected.

It appears that the reason why the U.S. included minimum technology requirements in its regulations was to expedite prompt mitigation of what was developing into a hazardous waste disposal crisis. A system was needed to enable the disposal of hazardous wastes within a diversity of disposal environments across the country, and the system had to be implemented quickly. The statutory requirements for minimum technology provide a design concept that is easy to understand, and that can, at least ostensibly, be applied in most types of environments. This helps site developers and operators to get on with the job of disposing of hazardous wastes without delay over what kind of design would be acceptable.

Liners, especially flexible membrane liners, ultimately fail, releasing their contained liquids to the environment. Therefore in the long-term, it is beneficial to the environment to dispose of hazardous wastes in locations that will naturally attenuate or harbour contaminants without damage to human health, enjoyment or natural ecosystems. Southern Ontario has extensive thick clay deposits where naturally attenuating locations for hazardous waste disposal can be found. The use of double liner and leachate collection systems in Ontario could provide inferior

protection or be redundant to the alternative of selecting naturally attenuating sites. Ontario currently has only two hazardous waste landfills, one in use and one being developed. There are many well qualified engineers and hydrogeologists in Ontario who can select and design disposal sites that take advantage of the ample opportunities offered by the Ontario environment.

U.S. EPA TECHNOLOGY FOR THE DESIGN OF LANDFILL DISPOSAL FACILITIES FOR HAZARDOUS WASTES

1. INTRODUCTION

This report is about technologies for the design of engineered facilities at landfills designated for the disposal of hazardous wastes. These technologies developed rapidly in the 1970's and 1980's, especially in the United States. Now they comprise a specialty field in engineering. The objective of this report is to summarize the current technology as promulgated by the United States Environmental Protection Agency (EPA), and to provide reference material for those who wish to pursue this subject further.

The U.S. Congress, through its statutes, has assigned to the EPA, the overall regulatory role for waste management across the nation. This role includes promulgating regulations and suggested guidelines. In this paper, we first identify the primary statutes and statutory requirements for landfill disposal that affect owners and developers of landfill disposal sites. We then describe the EPA regulations. Finally, we discuss the relevance of the EPA's regulations and associated technology transfer program to landfill disposal in Ontario. Appendix A provides an annotated bibliography of the Technical Resource Documents, and Technical Guidance Documents. The documents suggest engineering designs which, if followed, will be likely to meet the regulatory requirements. Appendix B provides exerpts of the statutory requirements imposed by Congress, and Appendix C provides exerpts of the regulations as promulgated by the EPA for hazardous wastes disposal in landfills. A companion report titled "A Summary of United States Regulatory Activities in Waste Disposal" is available from Technology and Site Assessment Section. This provides a broad summary of the statutes and regulations that pertain to waste disposal in the United States.

2. SUMMARY OF STATUTORY REQUIREMENTS BY CONGRESS

2.1 Statutes

In the United States, the Resource Conservation and Recovery Act of 1976 (RCRA), and the Hazardous and Solid Wastes Amendments Act of 1984 (HSWA) require the EPA to promulgate regulations and suggested technology for the management of solid wastes. The RCRA amended and incorporated the earlier Solid Waste Disposal Act of 1965. For the present study, we referred to the edition of the RCRA which was published on July 8, 1988 (See References). The edition contains all of the HSWA amendments.

In the RCRA, the Administrator of the Act is defined as the Administrator of the EPA. Under the RCRA, the EPA has the mandate to develop a Federal Hazardous Waste Management Program to ensure that hazardous wastes are handled safely from generation to final disposition. As part of this mandate, the EPA is required to develop and promulgate regulations and to develop and publish suggested guidelines for the disposal of solid wastes in landfills. The part of the RCRA that deals with hazardous wastes is called Subtitle C - Hazardous Waste Management. Exerpts from Subtitle C are provided in Appendix B of this report.

2.2 Statutory Requirements for Regulations

The RCRA requires the EPA to establish standards applicable to owners and operators of facilities for the disposal of hazardous wastes as may be necessary to protect human health and the environment. The standards are to address the location, design, construction and operation of such facilities. Owners and operators of new facilities must apply for and receive an RCRA permit before beginning operation of such a facility.

2.3 Statutory Requirements for Minimum Technology

The RCRA imposes certain minimum technological requirements on the design of facilities at landfill disposal sites. Exceptions may be allowed only with the approval of the Regional Administrator of the EPA. Some of the requirements pertain to new landfills. Others pertain to existing landfills to allow existing facilities to continue operations while meeting minimum operational standards. This report addresses the technology for new landfills. The technological requirements for new landfills are provided in detail in Appendix B. A brief description of them follows here.

The RCRA requires the Administrator of the EPA to promulgate regulations, and to revise them from time to time to take into account improvements in technology. The regulations are to require at new landfills, at a minimum:

i) the installation of two or more liners and a leachate collection system above and between the liners, and

ii) groundwater monitoring.

The Administrator may allow exceptions if he finds that alternative design and operating practices, together with location characteristics will prevent the migration of any hazardous constituents into the groundwater or surface water at least as effectively as such liners and leachate collection systems. In addition, the double liner requirements may be waived by the Administrator for monofills, which are landfills that contain a single kind of material only, provided that specified conditions are met. Included among these conditions are that the monofill has at least one liner and is located more than one quarter mile from an underground source of drinking water.

The RCRA further requires the Administrator to promulgate standards requiring that new landfills utilize approved leak detection systems. These are to be capable of detecting leaks of hazardous constituents at the earliest practicable time in the opinion of the Administrator.

Until such time as the Administrator has promulgated these regulations or guidance documents, the requirement for the installation of two or more liners may be satisfied by the installation of a top liner so as to prevent the migration of any constituent into it through to the end of the post-closure monitoring period, and a lower liner so as to prevent the migration of any constituent through it during the same period. The lower liner shall be deemed to satisfy its requirement if it is composed of a layer at least three feet thick of clay or other natural material with a permeability no greater than 1 x 10exp-7 centimeter per second.

The regulations are also to specify criteria for the acceptable location of new and existing landfill disposal facilities as necessary to protect human health and the environment. The Administrator is required to publish guidance criteria identifying areas of vulnerable hydrogeology.

The RCRA requires that the groundwater monitoring standards promulgated by the EPA shall apply whether or not:

i) the landfill is located above the seasonal high water table;

ii) two liners and a leachate collection system have been installed at the landfill; or

iii) the owner or operator inspects the liner (or liners) which has been installed at the facility.

The Administrator may exempt from groundwater monitoring requirements landfill facilities which do not contain liquid waste, exclude precipitation, utilize multiple leak detection systems within the outer layer of containment, and provide for continuing operation and maintenance of these leak detection systems through the period required for post-closure monitoring, and from which, in the Administrator's opinion, hazardous constituents will not migrate beyond the outer layer of containment prior to end of the period for post-closure monitoring.

3. REGULATIONS PROMULGATED BY EPA

The EPA develops and promulgates regulations as directed by the RCRA. The EPA may develop new regulations and revise existing ones at any time. These are published in the Federal Register which is issued daily. An up-to-date compilation of all of the regulations is published every six months in the Code of Federal Regulations (CFR). Title 40 of the Code, Part 264 includes regulations pertaining to the design of landfills. See Appendix C of this report for details. A summary of the regulations pertaining to the design of landfills follows.

A major concern in the design of landfills is containment: landfills should not allow contaminants to escape and pollute the environment. Yet it is recognized

that landfill containment structures will ultimately leak given enough time. Therefore, it is important to have a clear definition of what the term "life" of a landfill means. The regulations define the life of a landfill as being comprised of the following components:

i) an active period during which wastes are periodically received,

ii) a closure period of 180 days; and

iii) a post-closure period of 30 years.

The Regional Administrator may shorten or extend components ii) and iii) provided that protection of human health and the environment is the paramount consideration.

The design and operating requirements set forth in the regulations specify that new landfills must have two or more liners and a leachate collection system above and between the liners. The top liner must prevent the migration of any constituent into it until the end of the post-closure period, while the lower liner must prevent the migration of any constituent through it for the same period. The lower liner will be accepted as meeting the requirements if it is constructed of at least a three-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1 x 10exp-7 centimeter per second.

The regulations authorize the Administrator to permit alternative designs if they will perform so as to prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as such liners and leachate collection systems. In addition, certain monofils may be exempted under specified conditions.

In addition to the liner system requirements, the regulations require a run-on control system to prevent flow onto the active portion of the landfill during peak discharge from at least a 25-year storm, and a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm. Collection and holding facilities must be managed to maintain design capacity after storms.

Cover material must be applied as necessary to control wind dispersal from the landfill.

The Regional Administrator must specify in the permit all design and operating practices that are necessary to ensure the fulfilment of the requirements for landfills specified in the Code of Regulations.

During installation liners and cover systems must be inspected for uniformity, damage and imperfections, as specified by the regulations.

The exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks must be recorded.

At final closure, a landfill must have a final cover to provide long-term minimization of migration of liquids through the closed landfill. The cover is to have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

After closure, a series of specified post-closure requirements must be met, including maintenance and monitoring throughout the post-closure care period. As part of the post-closure care, the leachate collection and removal system must be operated until leachate is no longer detected.

4. APPLYING U.S. EPA DESIGN REGULATIONS IN ONTARIO

For the landfill disposal of hazardous wastes, the U.S. regulations require, at a minimum, the protection provided by two or more bottom liners in series each with a leachate collection system immediately above it. In addition, they require a final cover to limit the entry of water into a landfill where the water could come in contact with the wastes to become leachate. The effect is to encapsulate the wastes and thereby minimize the rate of leachate production. What leachate that does occur must be collected and treated before disposal. Leachate collection and treatment is required to continue until the end of the post-closure period or until leachate is no longer detected.

Why was it deemed necessary to incorporate minimum design requirements into legislation in the U.S? Based on our study and discussions with others in this field, it appears that in the U.S. there were too many contaminating sites recently identified, and too many new and safer landfills urgently needed, for the number of qualified engineers and hydrogeologists available to address these problems on a case-by-case basis. Moreover, the diverse range of hydrogeologic environments in the U.S. means that environmental vulnerabilities and associated design requirements at potential landfill sites vary appreciably from one location to another. Therefore, a simple design for all environments was needed to allow less than fully qualified people to get on with the construction of the needed safer landfills immediately. We believe that this was probably the reason, or one of the reasons, why the U.S. adopted a statutory policy of requiring "Minimum Technological Requirements" which are based largely on the use of synthetic membrane liners at its landfill disposal facilities.

In contrast with the U.S. situation, Ontario's present needs for hazardous waste landfill sites appear to be less critical. Therefore, Ontario has enough qualified engineers and hydrogeologists to design sites individually, giving specific consideration to the waste and the environment at each site.

Smith (1984) says that, according to a NATO study group, most landfill disposal units will eventually leak to some extent after closure however well they are designed. Nevertheless, Smith continues, while containment with associated hydraulic barriers may not provide a permanent solution, it can often provide a solution that is likely to remain effective for a considerable period of time. During the "breathing space" thus provided, the hazard presented by the contaminants may be reduced by natural processes, and new forms of permanent treatment may be developed.

Flexible membrane liners must ultimately breakdown by decomposition. When this happens, the containment capability of the liner will fail, although it may already have failed if there were construction imperfections during installation. Though exact time limits have not yet been determined, many toxic wastes can be expected to continue to pose a hazard to sensitive environments long after a flexible membrane liner has decomposed. Therefore, the encapsulation of hazardous wastes using flexible membrane liners may be considered a temporary measure, amounting to storage, not disposal. Therefore, it is important to choose sites for landfills recognizing that leachate from the wastes will ultimately be released to the environment.

Unlike much of the U.S., the Ontario environment offers opportunity to dispose of wastes in thick clay deposits. The clay deposits can limit the movement of landfill leachate through them to a slow rate because of their low permeability. They can also attentuate the transport of contaminants borne by leachate, because their fine grained particles present an enormous surface area for chemical bonding.

Naturally attentuating sites protect the environment longer than engineered facilities involving liners at sites in sensitive environments. Therefore the U.S. requirement for flexible membrane liners if applied in Ontario, may ultimately provide no additional protection for the environment and human safety at disposal facilities for hazardous wastes.

In conclusion, the thick clay deposits in southern Ontario appear to offer an opportunity for the disposal of hazardous wastes in naturally attenuating environments. Therefore the need for Ontario to adopt the universal approach followed by the U.S. EPA for the landfilling of hazardous wastes is questionable and Ontario prefers to consider each application on a case by case, site specific basis.

REFERENCES

1. Code of Federal Regulations, Title 40: Protection of Environment, Parts 190 to 399. Revised July 1, 1985.

2. Code of Federal Regulations, Title 40: Protection of Environment, Part 241, Subparts A and B, and Part 264, Subparts A and N. Revised July 1, 1987.

3. Resource Conservation and Recovery Act of 1976, (as ammended by the Hazardous and Solid Waste Amendments of 1984). Published by The Bureau of National Affairs, Inc., Washington, D.C. December 28, 1984.

4. Saplamaeff E., (1988). A summary of United States Regulatory Activities in Waste Disposal. Waste Management Branch. August, 1988.

5. Smith, M.A., (1984). The NATO/CCMS Study of Contaminated Land. In: The 5th National Conference on Management of Uncontrolled Hazardous Waste Sites, Washington, D.C., November 7-9, 1984.

APPENDIX A

ANNOTATED BIBLIOGRAPHY OF EPA TECHNICAL DOCUMENTS ON DESIGN OF ENGINEERED LANDFILL DISPOSAL FACILITIES

APPENDIX A

ANNOTATED BIBLIOGRAPHY OF EPA TECHNICAL DOCUMENTS ON DESIGN OF ENGINEERED LANDFILL DISPOSAL FACILITIES

The U.S. EPA has prepared two types of documents: draft RCRA Technical Guidance Documents (TGD) by the Office of Solid Waste (OSW), and Technical Resource Documents (TRD) by the Office of Research and Development (ORD). These documents are to assist permit officials responsible for hazardous waste landfills, as well as other waste facilities, and to assist the regulated community. The TGD's present design and operating specifications which the EPA believes comply with the requirements of Title 40 of the Code of Federal Regulations, Part 264 (40 CFR 264), for the Design and Operating Requirements and the Closure and Post-Closure Requirements contained in these regulations. The TRD's support the TGD's in the areas of liners, leachate management, closure, covers, and water balance, by describing current technologies and methods for evaluating the performance of the applicant's design. The information in these documents does not represent requirements, but rather suggestions which, if followed, will be likely to meet the requirements of the regulations.

A list of Technical Resource and Technical Guidance Documents follows, together with a brief outline of their contents. The SW numbers in some of the titles correspond to numbers placed on the respective documents by EPA. The numbers at the end of each document description are to provide ordering information. Source information is provided at the end of this Appendix.

1) Guide to the Disposal of Chemically Stabilized and Solidified Wastes (SW-872)

The purpose of this TRD is to provide guidance in the use of chemical stabilization/solidification techniques for limiting hazards posed by toxic wastes in the environment, and to assist in the evaluation of permit applications related to this disposal technology. The document addresses the treatment of hazardous waste for disposal or long term storage, and it surveys the current state and effectiveness of waste treatment technology. A summary of the major physical and chemical properties of treated wastes is presented. A listing of major suppliers of stabilization and solidification technology is included, together with a summary of each process.

*055-000-00226-6

2) Lining of Waste Impoundment and Disposal Facilities (SW-870)

This document provides information on performance, selection, and installation of specific liners and cover materials for specific disposal situations, based upon the current state-of-the-art of liner technology and other pertinent technologies. It contains descriptions of wastes and their effects on linings, a full description of various natural and artificial liners, service life and failure mechanisms; installation problems and requirements of liner types, costs of liners and installation, and tests that are necessary for pre-installation and monitoring surveys. A revised version was to be available in late 1986.

*055-000-00231-2

3) Soil Properties, Classification and Hydraulic Conductivity Testing

This report is a compilation of available laboratory and field testing methods for the measurement of hydraulic conductivity (permeability) of soils. Background information on soil classification, soil water, and soil compaction are included along with descriptions of sixteen methods for determination of saturated or unsaturated hydraulic conductivity. This TRD (SW-925) was published by OSW in March, 1984, for public comment. It is being revised to incorporate public comments that were received. A draft copy of this document has been sent to ORD where it has been stalled, awaiting clearance.

4) Design, Construction, Maintenance, and Evaluation of Clay Liners for Hazardous Waste Facilities

This 600 page TRD summarizes the state-of-the-art for clay liners as of August, 1985. It was issued for public comment in December, 1986, is currently being revised, and will be reissued for inspection at EPA libraries in Cincinnati, Washington D.C., Research Triangle Park, and in all ten Regional Offices. The draft TRD may be purchased, on paper or microfiche, through NTIS as PB 86-184496/AS.

5) Evaluating Cover Systems for Solid and Hazardous Waste (SW 867)

A critical part of the sequence of designing, constructing, and maintaining an effective cover over solid and hazardous waste sites is the evaluation of engineering plans. This TRD presents a procedure for

evaluating closure covers on solid and hazardous wastes sites. All aspects of covers are addressed in detail to allow for a complete evaluation of the entire cover system. There are eleven sequential procedures identified for evaluating engineering plans.

The document describes current technology for landfill covers in three broad areas: data examination, evaluation steps and post-closure plan. The data examination discusses test data review procedure, topographical data review and climatological data review procedures. The evaluation steps include cover composition, thickness, placement, configuration, drainage and vegetation. The post-closure aspects include maintenance and contingency plan evaluation procedures. There are 36 specific steps, regarding the preceding factors, which are recommended to be followed in evaluating a permit for a cover for hazardous waste.

*055-000-00228-2

6) Hydrologic Evaluation of Landfill Performance (HELP) Model

The HELP Model is a modification of the original waste disposal site hydrologic model entitled, "Hydrologic Simulation on Solid Waste Disposal Sites." This update has incorporated the two-dimensional aspects of landfill cover systems, as well as the addition of the leachate collection system. OSW published this TRD (SW-84-009 and SW-84-010) for public comment in two volumes. These two volumes are available from NTIS (†PB-85-100-840 and †PB-85-100-832, respectively) and include the user's guide for Version 1 and documentation and description of the program. The HELP Model

(Version 1) is also available for the IBM PC/XT or compatible computers. Version 2 of the HELP Model is being developed to incorporate public comments and results from verification studies and was to be published in late 1987.

7) Landfill and Surface Impoundment Performance Evaluation (SW-869)

The evaluation of leachate collection systems using compacted clay or synthetic liners to determine how much leachate will be collected and how much will seep through the liner into underlying soils is presented. The adequacy of sand and gravel drain layers, slope, and pipe spacing is also covered. The author has allowed for the widely varied technical backgrounds of his intended audience by presenting, in full, the rigorous mathematics involved in reaching his final equations.

*055-000-00233-9

8) Solid Waste Leaching Procedures Manual

This is a report on laboratory batch procedures for extracting or leaching a sample of solid waste so that the composition of the lab leachate is similar to the composition of leachate from waste under field conditions. This TRD (SW-924) was originally published by OSW in March, 1984, for public comment and has subsequently been revised with their incorporation. At present, the draft document is completed and awaits clearance by ORD.

9) Management of Hazardous Waste Leachate (SW-871)

This document has been prepared to provide guidance for permit officials and disposal site operators on available management options for controlling, treating, and disposing of hazardous waste leachates. It discusses considerations necessary to develop sound management plans for leachate generated at surface impoundments and landfills. Management may take the form of leachate collection and treatment, or pretreatment of the wastes.

*055-000-00224-0

10) Batch-Type Absorption Procedures for Estimating Soil Attenuation of Chemicals

This TRD summarizes laboratory batch procedures for assessing the capacity of soils to attenuate chemical constituents from solutions such as leachates. It explains the scientific basis and rationale for these procedures and the use of data in designing soil liners for pollutant retention.

It was to be issued for public comment in May, 1987. Copies will be available for inspection at EPA Libraries in Cincinnati, Washington D.C., Research Triangle Park, and in all ten Regional Offices. It may also be purchased, on paper or microfiche, from the NTIS as PB 87-146155.

NOTES:

* These documents have been published and the reports are available from the U.S. Government Printing Office by requesting the stock number. Copies can be obtained for a price from:

The Superintendent of Documents
U.S. Government Printing Office
Washington
District of Columbia 20402
U.S.A.

Telephone: (202) 782-3238

† These documents have been published and reports are available from NTIS by requesting the stock number. Copies can be obtained for a price from:

National Technical Information Service
5285 Port Royal Road
Springfield
Virginia 22161
U.S.A.

Telephone: (703) 487-4650

APPENDIX B

EXCERPTS FROM RCRA ON HAZARDOUS WASTE DISPOSAL

B. EXCERPTS FROM RCRA ON HAZARDOUS WASTE DISPOSAL

Appendix B provides excerpts from the Resource Conservation and Recovery Act of 1976 (RCRA) pertaining to the disposal of hazardous wastes in landfills. The purpose of Appendix B is to show the wording of the pertinent sections of this statute governing how the U.S. Environmental Protection Agency (EPA) is to regulate the disposal of hazardous wastes in landfills. Included here are the title page, list of contents, Subtitle A - General Provisions, Sections 1001, 1002, 1003 and 1004; and Subtitle C - Hazardous Waste Management, all Sections.

(5) to take any action authorized by such Act with respect to a report of an employment accident which is fatal to one or more employees or which results in hospitalization of five or more employees, and take any action pursuant to such investigation authorized by such Act; and

(6) to take any action authorized by such Act with respect to complaints of discrimination against employees for exercising rights under such Act: *Provided further*, That the foregoing proviso shall not apply to any person who is engaged in a farming operation which does not maintain a temporary labor camp and employs ten or fewer employees: *Provided further*, That none of the funds appropriated under this paragraph shall be obligated or expended for the proposal or assessment of any civil penalties for the violation or alleged violation by an employer of ten or fewer employees of any standard, rule, regulation, or order promulgated under the Occupational Safety and Health Act of 1970 (other than serious, willful or repeated violations and violations which pose imminent danger under section 13 of the Act) if, prior to the inspection which gives rise to the alleged violation, the employer cited has (1) voluntarily requested consultation under a program operated pursuant to section 7(c)(1) or section 18 of the Occupational Safety and Health Act of 1970 or from a private consultative source approved by the Administration and (2) had the consultant examine the condition cited and (3) made or is in the process of making a reasonable good faith effort to eliminate the hazard created by the condition cited as such, which was identified by the aforementioned consultant, unless changing circumstances or workplace conditions render inapplicable the advice obtained from such consultants: *Provided further*, That none of the funds appropriated under this paragraph may be obligated or expended for any State plan monitoring visit by the Secretary of Labor under section 18 of the Occupational Safety and Health Act of 1970, of any factory, plant, establishment, construction site, or other area, workplace or environment where such a workplace or environment has been inspected by an employee of a State acting pursuant to section 18 of such Act within the six months preceding such inspection: *Provided further*, That this limitation does not prohibit the Secretary of Labor from conducting such monitoring visit at the time and place of an inspection by an employee of a State acting pursuant to section 18 of such Act, or in order to investigate a complaint about State program administration including a failure to respond to a worker complaint regarding a violation of such Act, or in order to investigate a discrimination complaint under section 11(c) of such Act, or as part of a special study monitoring program, or to investigate a fatality or catastrophe: *Provided further*, That none of the funds appropriated under this paragraph may be obligated or expended for the inspection, investigation, or enforcement of any activity occurring on the Outer Continental Shelf which exceeds the authority granted to the Occupational Safety and Health Administration by any provision of the Outer Continental Shelf Lands Act, or the Outer Continental Shelf Lands Act Amendments of 1978.

RESOURCE CONSERVATION AND RECOVERY ACT

as amended[1]

42 U.S.C.A. § 6901 et seq.

Section 1. This Act may be cited as the "Resource Conservation and Recovery Act of 1976".

AMENDMENT OF SOLID WASTE DISPOSAL ACT

Section 2. The Solid Waste Disposal Act (42 U.S.C. 3251 and following) is amended to read as follows:

TITLE II—SOLID WASTE DISPOSAL

SUBTITLE A—SHORT TITLE AND TABLE OF CONTENTS

"Sec. 1001. This title (hereinafter referred to as 'this Act'), together with the following table of contents, may be cited as the 'Solid Waste Disposal Act':

"Subtitle A—General Provisions

"Sec. 1001.	Short title and table of contents.
"Sec. 1002.	Congressional findings.
"Sec. 1003.	Objectives and national policy.
"Sec. 1004.	Definitions.
"Sec. 1005.	Governmental cooperation.
"Sec. 1006.	Application of Act and integration with other Acts.
"Sec. 1007.	Financial disclosure.
"Sec. 1008.	Solid waste management information and guidelines.

"Subtitle B—Office of Solid Waste; Authorities of the Administrator

"Sec. 2001.	Office of Solid Waste and Interagency Coordinating Committee.

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1 PL 94-580, October 21, 1976, as amended by the Quiet Communities Act of 1978 (PL 95-609); the Solid Waste Disposal Act of 1980 (PL 96-482); the Used Oil Recycling Act of 1980 (PL 96-463); the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (PL 96-510); PL 97-272, September 30, 1982; PL 98-45, July 12, 1983; the 1984 Hazardous and Solid Waste Amendments (PL 98-616), November 8, 1984; PL 99-180, November 25, 1985; PL 99-339, June 19, 1986; and PL 99-499, October 17, 1986.

"Sec. 2002. Authorities of Administrator.
"Sec. 2003. Resource recovery and conservation panels.
"Sec. 2004. Grants for discarded tire disposal.
"Sec. 2005. Labeling of certain oil.
"Sec. 2006. Annual report.
"Sec. 2007. General authorization.
"Sec. 2008. Office of Ombudsman.

"Subtitle C—Hazardous Waste Management

"Sec. 3001. Identification and listing of hazardous waste.
"Sec. 3002. Standards applicable to generators of hazardous waste.
"Sec. 3003. Standards applicable to transporters of hazardous waste.
"Sec. 3004. Standards applicable to owners and operators of hazardous waste treatment, storage, and disposal facilities.
"Sec. 3005. Permits for treatment, storage, or disposal of hazardous waste.
"Sec. 3006. Authorized State hazardous waste programs.
"Sec. 3007. Inspections.
"Sec. 3008. Federal enforcement.
"Sec. 3009. Retention of State authority.
"Sec. 3010. Effective date.
"Sec. 3011. Authorization of assistance to States.
"Sec. 3012. Hazardous waste site inventory.
"Sec. 3013. Monitoring, analysis, and testing.
"Sec. 3014. Restrictions on recycled oil.
"Sec. 3015. Expansion during interim status.
"Sec. 3016. Inventory of Federal Agency hazardous waste facilities.
"Sec. 3017. Export of hazardous waste.
"Sec. 3018. Domestic sewage.
"Sec. 3019. Exposure information and health assessments.
"Sec. 3020. Interim control of hazardous waste injection.

"Subtitle D—State or Regional Solid Waste Plans

"Sec. 4001. Objectives of subtitle.
"Sec. 4002. Federal guidelines for plans.
"Sec. 4003. Minimum requirements for approval of plans.
"Sec. 4004. Criteria for sanitary landfills; sanitary landfills required for all disposal.
"Sec. 4005. Upgrading of open dumps.
"Sec. 4006. Procedure for development and implementation of State plan.
"Sec. 4007. Approval of State plan; Federal assistance.
"Sec. 4008. Federal assistance.
"Sec. 4009. Rural communities assistance.
"Sec. 4010. Adequacy of certain guidelines and criteria.

"Subtitle E—Duties of the Secretary of Commerce in Resource and Recovery

"Sec. 5001. Functions.
"Sec. 5002. Development of specifications for secondary materials.
"Sec. 5003. Development of markets for recovered materials.
"Sec. 5004. Technology promotion.
"Sec. 5005. Nondiscrimination requirement.
"Sec. 5006. Authorization of appropriations.

"Subtitle F—Federal Responsibilities

"Sec. 6001. Application of Federal, State, and local law to Federal facilities.
"Sec. 6002. Federal procurement.
"Sec. 6003. Cooperation with Environmental Protection Agency.
"Sec. 6004. Applicability of solid waste disposal guidelines to executive agencies.

"Subtitle G—Miscellaneous Provisions

"Sec. 7001. Employee protection.
"Sec. 7002. Citizen suits.
"Sec. 7003. Imminent hazard.
"Sec. 7004. Petition for regulations; public participation.
"Sec. 7005. Separability.
"Sec. 7006. Judicial review.
"Sec. 7007. Grants or contracts for training projects.
"Sec. 7008. Payments.
"Sec. 7009. Labor standards.
"Sec. 7010. Law enforcement authority.

"Subtitle H—Research, Development, Demonstration, and Information

"Sec. 8001. Research, demonstrations, training, and other activities.
"Sec. 8002. Special studies, plans or research, development, and demonstrations.
"Sec. 8003. Coordination, collection, and dissemination of information.
"Sec. 8004. Full scale demonstration facilities.
"Sec. 8005. Special study and demonstration projects on recovery of useful energy and materials.
"Sec. 8006. Grants for resource recovery systems and improved solid waste disposal facilities.
"Sec. 8007. Authorization of appropriations.

"Subtitle I—Regulation of Underground Storage Tanks

"Sec. 9001. Definitions.
"Sec. 9002. Notification.
"Sec. 9003. Release detection, prevention, and correction regulations.
"Sec. 9004. Approval of State programs.
"Sec. 9005. Inspections, monitoring, and testing.
"Sec. 9006. Federal enforcement.
"Sec. 9007. Federal facilities.
"Sec. 9008. State authority.
"Sec. 9009. Study of underground storage tanks.
"Sec. 9010. Authorization of appropriations.

"CONGRESSIONAL FINDINGS

42 USC 6901

"Sec. 1002. (a) SOLID WASTE.—The Congress finds with respect to solid waste—

"(1) that the continuing technological progress and improvement in methods of manufacture, packaging, and marketing of consumer products has resulted in an

ever-mounting increase, and in a change in the characteristics, of the mass material discarded by the purchaser of such products;

"(2) that the economic and population growth of our Nation, and the improvements in the standard of living enjoyed by our population, have required increased industrial production to meet our needs, and have made necessary the demolition of old buildings, the construction of new buildings, and the provision of highways and other avenues of transportation, which, together with related industrial, commercial, and agricultural operations, have resulted in a rising tide of scrap, discarded, and waste materials;

"(3) that the continuing concentration of our population in expanding metropolitan and other urban areas has presented these communities with serious financial, management, intergovernmental, and technical problems in the disposal of solid wastes resulting from the industrial, commercial, domestic, and other activities carried on in such areas;

"(4) that while the collection and disposal of solid wastes should continue to be primarily the function of State, regional, and local agencies, the problems of waste disposal as set forth above have become a matter national in scope and in concern and necessitate Federal action through financial and technical assistance and leadership in the development, demonstration, and application of new and improved methods and processes to reduce the amount of waste and unsalvageable materials and to provide for proper and economical solid waste disposal practices.

"(b) ENVIRONMENT AND HEALTH.—The Congress finds with respect to the environment and health, that—

"(1) although land is too valuable a national resource to be needlessly polluted by discarded materials, most solid waste is disposed of on land in open dumps and sanitary landfills;

"(2) disposal of solid waste and hazardous waste in or on the land without careful planning and management can present a danger to human health and the environment;

"(3) as a result of the Clean Air Act, the Water Pollution Control Act, and other Federal and State laws respecting public health and the environment, greater amounts of solid waste (in the form of sludge and other pollution treatment residues) have been created. Similarly, inadequate and environmentally unsound practices for the disposal or use of solid waste have created greater amounts of air and water pollution and other problems for the environment and for health;

"(4) open dumping is particularly harmful to health, contaminates drinking water from underground and surface supplies, and pollutes the air and the land;

"(5) the placement of inadequate controls on hazardous waste management will result in substantial risks to human health and the environment;

"(6) if hazardous waste management is improperly performed in the first instance, corrective action is likely to be expensive, complex, and time consuming;

"(7) certain classes of land disposal facilities are not capable of assuring long-term containment of certain hazardous wastes, and to avoid substantial risk to human health and the environment, reliance on land disposal should be minimized or eliminated, and land disposal, particularly landfill and surface impoundment, should be the least favored method for managing hazardous wastes; and

"(8) alternatives to existing methods of land disposal must be developed since many of the cities in the United States will be running out of suitable solid waste disposal sites within five years unless immediate action is taken.

"(c) MATERIALS.—The Congress finds with respect to materials, that—

"(1) millions of tons of recoverable material which could be used are needlessly buried each year;

"(2) methods are available to separate usable materials from solid waste; and

"(3) the recovery and conservation of such materials can reduce the dependence of the United States on foreign resources and reduce the deficit in its balance of payments.

"(d) ENERGY.—The Congress finds with respect to energy, that—

"(1) solid waste represents a potential source of solid fuel, oil, or gas that can be converted into energy;

"(2) the need exists to develop alternative energy sources for public and private consumption in order to reduce our dependence on such sources as petroleum products, natural gas, nuclear and hydroelectric generation; and

"(3) technology exists to produce usable energy from solid waste.

"CONGRESSIONAL FINDINGS: USED OIL RECYCLING

The Congress finds and declares that—

(1) used oil is a valuable source of increasingly scarce energy and materials;

(2) technology exists to re-refine, reprocess, reclaim, and otherwise recycle used oil;

(3) used oil constitutes a threat to public health and the environment when reused or disposed of improperly; and that, therefore, it is in the national interest to recycle used oil in a manner which does not constitute a threat to public health and the environment and which conserves energy and materials.

"OBJECTIVES AND NATIONAL POLICY

42 USC 6902

"Sec. 1003. (a) OBJECTIVES. The objectives of this Act are to promote the protection of health and the environment and to conserve valuable material and energy resources by—

"(1) providing technical and financial assistance to State and local governments and interstate agencies for the development of solid waste management plans (including resource recovery and resource conservation systems) which will promote improved solid waste management techniques (including more effective organizational arrangements), new and improved methods of collection, separation, and recovery of solid waste, and the environmentally safe disposal of nonrecoverable residues;

"(2) providing training grants in occupations involving the design, operation, and maintenance of solid waste disposal systems;

"(3) prohibiting future open dumping on the land and requiring the conversion of existing open dumps to facilities which do not pose a danger to the environment or to health;

"(4) assuring that hazardous waste management practices are conducted in a manner which protects human health and the environment;

"(5) requiring that hazardous waste be properly managed in the first instance thereby reducing the need for corrective action at a future date;

"(6) minimizing the generation of hazardous waste and the land disposal of hazardous waste by encouraging process substitution, materials recovery, properly conducted recycling and reuse, and treatment;

"(7) establishing a viable Federal-State partnership to carry out the purposes of this Act and insuring that the Administrator will, in carrying out the provisions of subtitle C of this Act, give a high priority to assisting and cooperating with States in obtaining full authorization of State programs under subtitle C;

"(8) providing for the promulgation of guidelines for solid waste collection, transport, separation, recovery, and disposal practices and systems;

"(9) promoting a national research and development program for improved solid waste management and resource conservation techniques, more effective organizational arrangements, and new and improved methods of collection, separation, and recovery, and recycling of solid wastes and environmentally safe disposal of nonrecoverable residues;

"(10) promoting the demonstration, construction, and application of solid waste management, resource recovery, and resource conservation systems which preserve and enhance the quality of air, water, and land resources; and

"(11) establishing a cooperative effort among the Federal, State, and local governments and private enterprise in order to recover valuable materials and energy from solid waste.

"(b) NATIONAL POLICY.—The Congress hereby declares it to be the national policy of the United States that, wherever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible. Waste that is nevertheless generated should be treated, stored, or disposed of so as to minimize the present and future threat to human health and the environment.

"DEFINITIONS

42 USC 6903

"SEC. 1004. As used in this Act:

"(1) The term 'Administrator' means the Administrator of the Environmental Protection Agency.

"(2) The term 'construction,' with respect to any project of construction under this Act, means (A) the erection or building of new structures and acquisition of lands or interests therein, or the acquisition, replacement, expansion, remodeling, alteration, modernization, or extension of existing structures, and (B) the acquisition and installation of initial equipment of, or required in connection with, new or newly acquired structures or the expanded, remodeled, altered, modernized or extended part of existing structures (including trucks and other motor vehicles, and tractors, cranes, and other machinery) necessary for the proper utilization and operation of the facility after completion of the project; and includes preliminary planning to determine the economic and engineering feasibility and the public health and safety aspects of the project, the engineering, architectural, legal, fiscal, and economic investigations and studies, and any surveys, designs, plans, working drawings, specifications, and other action necessary for the carrying out of the project, and (C) the inspection and supervision of the process of carrying out the project to completion.

"(2A) The term 'demonstration' means the initial exhibition of a new technology process or practice or a significantly new combination or use of technologies, processes or practices, subsequent to the development stage, for the purpose of proving technological feasibility and cost effectiveness.

"(3) The term 'disposal' means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

"(4) The term 'Federal agency' means any department, agency, or other instrumentality of the Federal Government, and any independent agency or establishment of the Federal Government including any Government corporation, and the Government Printing Office.

"(5) The term 'hazardous waste' means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may—

"(A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

"(B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

"(6) The term 'hazardous waste generation' means the act or process of producing hazardous waste.

"(7) The term 'hazardous waste management' means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous wastes.

"(8) For purposes of Federal financial assistance (other than rural communities assistance), the term 'implementation' does not include the acquisition, leasing, construction, or modification of facilities or equipment or the acquisition, leasing, or improvement of land.

"(9) The term 'intermunicipal agency' means an agency established by two or more municipalities with responsibility for planning or administration of solid waste.

"(10) The term 'interstate agency' means an agency of two or more municipalities in different States, or an agency established by two or more States, with authority to provide for the management of solid wastes and serving two or more municipalities located in different States.

"(11) The term 'long term contract' means, when used in relation to solid waste supply, a contract of sufficient duration to assure the viability of a resource recovery facility (to the extent that such viability depends upon solid waste supply).

"(12) The term 'manifest' means the form used for identifying the quantity, composition, and the origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of disposal, treatment, or storage.

"(13) The term 'municipality' (A) means a city, town, borough, county, parish, district, or other public body created by or pursuant to State law, with responsibility for the planning or administration of solid waste management, or an Indian tribe or authorized tribal organization or Alaska Native village or organization, and (B) includes any rural community or unincorporated town or village or any other public entity for which an application for assistance is made by a State or political subdivision thereof.

"(14) The term 'open dump' means any facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 4004 and which is not a facility for disposal of hazardous waste.

"(15) The term 'person' means an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

"(16) The term 'procurement item' means any device, good, substance, material, product, or other item whether real or personal property which is the subject of any purchase, barter, or other exchange made to procure such an item.

"(17) The term 'procuring agency' means any Federal agency, or any State agency or agency of a political subdivision of a State which is using appropriated Federal funds for such procurement, or any person contracting with any such agency with respect to work performed under such contract.

"(18) The term 'recoverable' refers to the capability and likelihood of being recovered from solid waste for a commercial or industrial use.

"(19) The term 'recovered material' means waste material and byproducts which have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process.

"(20) The term 'recovered resources' means material or energy recovered from solid waste.

"(21) The term 'resource conservation' means reduction of the amounts of solid waste that are generated, reduction of overall resource consumption, and utilization of recovered resources.

"(22) The term 'resource recovery' means the recovery of material or energy from solid waste.

"(23) The term 'resource recovery system' means a solid waste management system which provides for collection, separation, recycling, and recovery of solid wastes, including disposal of nonrecoverable waste residues.

"(24) The term 'resource recovery facility' means any facility at which solid waste is processed for the purpose of extracting, converting to energy, or otherwise separating and preparing solid waste for reuse.

"(25) The term 'regional authority' means the authority established or designated under section 4008.

"(26) The term 'sanitary landfill' means a facility for the disposal of solid waste which meets the criteria published under section 4004.

"(26A) The term 'sludge' means any solid, semisolid or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effects.

"(27) The term 'solid waste' means any garbage, refuse, sludge, from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

"(28) The term 'solid waste management' means the systematic administration of activities which provide for the collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of solid waste.

"(29) The term 'solid waste management facility' includes—

"(A) any resource recovery system or component thereof,

"(B) any system, program, or facility for resource conservation, and

"(C) any facility for the collection, source separation, storage, transportation, transfer, processing, treatment, or disposal of solid wastes, including hazardous wastes, whether such facility is associated with facilities generating such wastes or otherwise.

"(30) The term 'solid waste planning', 'solid waste management', and 'comprehensive planning' include planning or management respecting resource recovery and resource conservation.

"(31) The term 'State' means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"(32) The term 'State authority' means the agency established or designated under section 4007.

"(33) The term 'storage', when used in connection with hazardous waste, means the containment of hazardous waste, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such hazardous waste.

"(34) The term 'treatment', when used in connection with hazardous waste, means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery, amenable for storage, or reduced in volume. Such term includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous.

"(35) The term 'virgin material' means a raw material, including previously unused copper, aluminum, lead, zinc, iron, or other metal or metal ore, any undeveloped resource that is, or with new technology will become a source of raw materials.

"(36) The term 'used oil' means any oil which has been—

"(A) refined from crude oil,

"(B) used, and

"(C) as a result of such use, contaminated by physical or chemical impurities.

"(37) The term 'recycled oil' means any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes oil which is re-refined, reclaimed, burned, or reprocessed.

"(38) The term 'lubricating oil' means the fraction of crude oil which is sold for purposes of reducing friction in any industrial or mechanical device. Such term includes re-refined oil.

"(39) The term 're-refined oil' means used oil from which the physical and chemical contaminants acquired through previous use have been removed through a refining process.

"GOVERNMENTAL COOPERATION

42 USC 6904

"Sec. 1008. (a) INTERSTATE COOPERATION.—The provisions of this Act to be carried out by States may be carried out by interstate agencies and provisions applicable to States may apply to interstate regions where such agencies and regions have been established by the respective States and approved by the Administrator. In such case, action required to be taken by the Governor of a State, respecting regional designation shall be required to be taken by the Governor of each of the respective States with respect to so much of the interstate region as is within the jurisdiction of that State.

"(b) CONSENT OF CONGRESS TO COMPACTS.—The consent of the Congress is hereby given to two or more states to negotiate and enter into agreements or compacts, not in conflict with any law or treaty of the United States, for—

"(1) cooperative effort and mutual assistance for the management of solid waste or hazardous waste (or both) and the enforcement of their respective laws relating thereto, and

"GENERAL AUTHORIZATION

42 USC 6916

"Sec. 2007. (a) GENERAL ADMINISTRATION.—There are authorized to be appropriated to the Administrator for the purpose of carrying out the provision of this Act, $35,000,000 for the fiscal year ending September 30, 1977, $ 38,000,000 for the fiscal year ending September 30, 1978, $42,000,000 for the fiscal year ending September 30, 1979, $70,000,000 for the fiscal year ending September 30, 1980, $80,000,000 for the fiscal year ending September 30, 1981, $80,000,000 for the fiscal year ending September 30, 1982, $70,000,000 for the fiscal year ending September 30, 1983, $80,000,000 for the fiscal year ending September 30, 1984, $80,000,000 for the fiscal year ending September 30, 1987, and $80,000,000 for the fiscal year 1988.

"(b) RESOURCE RECOVERY AND CONSERVATION PANELS.—Not less than 20 percent of the amount appropriated under subsection (a), or $5,000,000 per fiscal year, whichever is less, shall be used only for purposes of Resource Recovery and Conservation Panels established under section 3003 (including travel expenses incurred by such panels in carrying out their functions under this Act).

"(c) HAZARDOUS WASTE.—Not less than 30 percent of the amount appropriated under subsection (a) shall be used only for purposes of carrying out subtitle C of this Act (relating to hazardous waste) other than section 3011.

"(d) STATE AND LOCAL SUPPORT.—Not less than 25 per centum of the total amount appropriated under this title, up to the amount authorized in section 4008(a)(1), shall be used only for purposes of support to State, regional, local, and interstate agencies in accordance with subtitle D of this Act other than section 4008(a)(3) or 4009.

"(e) CRIMINAL INVESTIGATORS.—There is authorized to be appropriated to the Administrator $3,246,000 for the fiscal year 1985, $2,406,200 for the fiscal year 1986, $2,528,000 for the fiscal year 1987, and $2,528,000 for the fiscal year 1988 to be used—

"(1) for additional officers or employees of the Environmental Protection Agency authorized by the Administrator to conduct criminal investigations (to investigate, or supervise the investigation of, any activity for which a criminal penalty is provided) under this Act; and

"(2) for support costs for such additional officers or employees.

"(f) UNDERGROUND STORAGE TANKS.—

(1) There are authorized to be appropriated to the Administrator for the purpose of carrying out the provisions of subtitle I (relating to regulation of underground storage tanks), $10,000,000 for each of the fiscal years 1985 through 1988.

"(2) There is authorized to be appropriated $25,000,000 for each of the fiscal years 1985 through 1988 to be used to make grants to the States for purposes of assisting the States in the development and implementation of approved State underground storage tank release detection, prevention, and correction programs under subtitle I."

"OFFICE OF OMBUDSMAN

42 USC 6917

"Sec. 2008. (a) ESTABLISHMENT; FUNCTIONS.—The Administrator shall establish an Office of Ombudsman, to be directed by an Ombudsman. It shall be the function of the Office of Ombudsman to receive individual complaints, grievances, requests for information submitted by any person with respect to any program or requirement under this Act.

"(b) AUTHORITY TO RENDER ASSISTANCE.—The Ombudsman shall render assistance with respect to the complaints, grievances, and requests submitted to the Office of Ombudsman, and shall make appropriate recommendations to the Administrator.

"(c) EFFECT ON PROCRDURES FOR GRIEVANCES, APPEALS, OR ADMINISTRATIVE MATTERS.—The establishment of the Office of Ombudsman shall not affect any procedures for grievances, appeals, or administrative matters in any other provision of this Act, any other provision of law, or any Federal regulation.

"(d) TERMINATION.—The Office of the Ombudsman shall cease to exist 4 years after the date of enactment of the Hazardous and Solid Waste Amendments of 1984."

SUBTITLE C—HAZARDOUS WASTE MANAGEMENT

IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

42 USC 6921

Sec. 3001. (a) CRITERIA FOR IDENTIFICATION OR LISTING.—Not later than eighteen months after the date of the enactment of this Act, the Administrator shall, after notice and opportunity for public hearing, and after consultation with appropriate Federal and State agencies, develop and promulgate criteria for identifying the characteristics of hazardous waste, and for listing hazardous waste, which should be subject to the provisions of this subtitle, taking into account toxicity, persistence, and degradability in nature, potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics. Such criteria shall be revised from time to time as may be appropriate.

"(b) IDENTIFICATION AND LISTING.—

"(1) Not later than eighteen months after the date of enactment of this section, and after notice and opportunity or public hearing, the Administrator shall promulgate regulations identifying the characteristics of hazardous waste, and listing particular hazardous wastes (within the meaning of section 1004(5)), which shall be subject to the provisions of this subtitle. Such regulations shall be based on the criteria promulgated under subsection (a) and shall be revised from time to time thereafter as may be appropriate. The Administrator, in cooperation with the Agency for Toxic Substances and Disease Registry and the National Toxicology Program, shall also identify or list those hazardous wastes which shall be subject to the provisions of this subtitle solely because of the presence in such wastes of certain constituents (such as identified carcinogens, mutagens, or teratagens) at levels in excess of levels which endanger health.

"(2)(A) Notwithstanding the provisions of paragraph (1) of this subsection, drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal energy shall be subject only to existing State or Federal regulatory programs in lieu of subtitle C until at least 24 months after the date of enactment of the Solid Waste Disposal Act

Amendments of 1980 and after promulgation of the regulations in accordance with subparagraphs (B) and (C) of this paragraph. It is the sense of the Congress that such State or Federal programs should include, for waste disposal sites which are to be closed, provisions requiring at least the following:

"(i) The identification through surveying, platting, or other measures, together with recordation of such information on the public record, so as to assure that the location where such wastes are disposed of can be located in the future; except however, that no such surveying, platting, or other measure identifying the location of a disposal site for drilling fluids and associated wastes shall be required if the distance from the disposal site to the surveyed or platted location to the associated well is less than two hundred linear feet; and

(ii) A chemical and physical analysis of a produced water and a composition of a drilling fluid suspected to contain a hazardous material, with such information to be acquired prior to closure and to be placed on the public record.

"(B) Not later than six months after completion and submission of the study required by section 8002(m) of this Act, the Administrator shall, after public hearings and opportunity for comment, determine either to promulgate regulations under this subtitle for drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal energy or that such regulations are unwarranted. The Administrator shall publish his decision in the Federal Register accompanied by an explanation and justification of the reasons for it. In making the decision under this paragraph, the Administrator shall utilize the information developed or accumulated pursuant to the study required under section 8002(m).

"(C) The Administrator shall transmit his decision, along with any regulations, if necessary, to both Houses of Congress. Such regulations shall take effect only when authorized by Act of Congress.

"(3)(A) Notwithstanding the provisions of paragraph (1) of this subsection, each waste listed below shall, except as provided in subparagraph (B) of this paragraph, be subject only to regulation under other applicable provisions of Federal or State law in lieu of this subtitle until at least six months after the date of submission of the applicable study required to be conducted under subsection (f), (n), (o), or (p) of section 8002 of this Act and after promulgation of regulations in accordance with subparagraph (C) of this paragraph:

"(i) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.

"(ii) Solid waste from the extraction, beneficiation, and processing of ores and minerals, including phosphate rock and overburden from the mining of uranium ore.

"(iii) Cement kiln dust waste.

"(B)(i) Owners and operators of disposal sites for wastes listed in subparagraph (A) may be required by the Administrator, through regulations prescribed under authority of section 2002 of this Act—

"(I) as to disposal sites for such wastes which are to be closed, to identify the locations of such sites through surveying, platting, or other measures, together with recordation of such information on the public record, to assure that the locations where such wastes are disposed of are known and can be located in the future, and

"(II) to provide chemical and physical analysis and composition of such wastes, based on available information, to be placed on the public record.

"(ii)(I) In conducting any study under subsection (f), (n), (o), or (p), of section 8002 of this Act, any officer, employee, or authorized representative of the Environmental Protection Agency, duly designated by the Administrator, is authorized, at reasonable times and as reasonably necessary for the purpose of

such study, to enter any establishment where any waste subject to such study is generated, stored, treated, disposed of, or transported from; to inspect, take samples, and conduct monitoring and testing; and to have access to and copy records relating to such waste. Each such inspection shall be commenced and completed with reasonable promptness. If the officer, employee, or authorized representative obtains any samples prior to leaving the premises, he shall give to the owner, operator, or agent in charge a receipt describing the sample obtained and if requested a portion of each such sample equal in volume or weight to the portion retained. If any analysis is made of such samples, or monitoring and testing performed, a copy of the results shall be furnished promptly to the owner, operator, or agent in charge.

"(II) Any records, reports, or information obtained from any person under subclause (I) shall be available to the public, except that upon a showing satisfactory to the Administrator by any person that records, reports, or information, or particular part thereof, to which the Administrator has access under this subparagraph if made public, would divulge information entitled to protection under section 1905 of title 18 of the United States Code, the Administrator shall consider such information or particular portion thereof confidential in accordance with the purposes of that section, except that such record, report, document, or information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out this Act. Any person not subject to the provisions of section 1905 of title 18 of the United States Code who knowingly and willfully divulges or discloses any information entitled to protection under this subparagraph shall, upon conviction, be subject to a fine of not more than $5,000 or to imprisonment not to exceed one year, or both.

"(iii) The Administrator may prescribe regulations, under the authority of this Act, to prevent radiation exposure which presents an unreasonable risk to human health from the use in construction or land reclamation (with or without revegetation) of (I) solid waste from the extraction, beneficiation, and processing of phosphate rock or (II) overburden from the mining of uranium ore.

"(iv) Whenever on the basis of any information the Administrator determines that any person is in violation of any requirement of this subparagraph, the Administrator shall give notice to the violator of his failure to comply with such requirement. If such violation extends beyond the thirtieth day after the Administrator's notification, the Administrator may issue an order requiring compliance within a specified time period or the Administrator may commence a civil action in the United States district court in the district in which the violation occurred for appropriate relief, including a temporary or permanent injunction.

"(C) not later than six months after the date of submission of the applicable study required to be conducted under subsection (f), (n), (o), or (p), of section 8002 of this Act, the Administrator shall, after public hearings and opportunity for comment, either determine to promulgate regulations under this subtitle for each waste listed in subparagraph (A) of this paragraph or determine that such regulations are unwarranted. The Administrator shall publish his determination, which shall be based on information developed or accumulated pursuant to such study, public hearings, and comment, in the Federal Register accompanied by an explanation and justification of the reasons for it.

"(c) PETITION BY STATE GOVERNOR.—At any time after the date eighteen months after the enactment of this title, the Governor of any State may petition the Administrator to identify or list a material as a hazardous waste. The Administrator shall act upon such petition within ninety days following his receipt thereof and shall notify the Governor of such action. If the Administrator denies such petition because of

financial considerations, in providing such notice to the Governor, he shall include a statement concerning such considerations.

"(d) SMALL QUANTITY GENERATOR WASTE.—

"(1) By March 31, 1988, the Administrator shall promulgate standards under sections 3002, 3003, and 3004 for hazardous waste generated by a generator in a total quantity of hazardous waste greater than 100 kilograms but less than 1,000 kilograms during a calendar month.

"(2) The standards referred to in paragraph (1), including standards applicable to the legitimate use, reuse, recycling, and reclamation of such wastes, may vary from the standards applicable to hazardous waste generated by larger quantity generators, but such standards shall be sufficient to protect human health and the environment.

"(3) Not later than 270 days after the enactment of the Hazardous and Solid Waste Amendments of 1984 any hazardous waste which is part of a total quantity generated by a generator generating greater than 100 kilograms but less than 1,000 kilograms during one calendar month and which is shipped off the premises on which such waste is generated shall be accompanied by a copy of the Environmental Protection Agency Uniform Hazardous Waste Manifest form signed by the generator. This form shall contain the following information:

"(A) the name and address of the generator of the waste;

"(B) the United States Department of Transportation description of the waste, including the proper shipping name, hazard class, and identification number (UN/NA), if applicable;

"(C) the number and type of containers;

"(D) the quantity of waste being transported; and

"(E) the name and address of the facility designated to receive the waste.

If subparagraph (B) is not applicable, in lieu of the description referred to in such subparagraph (B), the form shall contain the Environmental Protection Agency identification number, or a generic description of the waste, or a description of the waste by hazardous waste characteristic. Additional requirements related to the manifest form shall apply only if determined necessary by the Administrator to protect human health and the environment.

"(4) The Administrator's responsibility under this subtitle to protect human health and the environment may require the promulgation of standards under this subtitle for hazardous wastes which are generated by any generator who does not generate more than 100 kilograms of hazardous waste in a calendar month.

"(5) Until the effective date of standards required to be promulgated under paragraph (1), any hazardous waste identified or listed under section 3001 generated by any generator during any calendar month in a total quantity greater than 100 kilograms but less than 1,000 kilograms, which is not treated, stored, or disposed of at a hazardous waste treatment, storage, or disposal facility with a permit under section 3005, shall be disposed of only in a facility which is permitted, licensed, or registered by a State to manage municipal or industrial solid waste.

"(6) Standards promulgated as provided in paragraph (1) shall, at a minimum, require that all treatment, storage, or disposal of hazardous wastes generated by generators referred to in paragraph (1) shall occur at a facility with interim status or a permit under this subtitle, except that onsite storage of hazardous waste generated by a generator generating a total quantity of hazardous waste greater than 100 kilograms, but less than 1,000 kilograms during a calendar month, may occur without the requirement of a permit for up to 180 days. Such onsite storage may occur without the requirement of a permit for not more than 6,000 kilograms for up to 270 days if such generator must ship or haul such waste over 200 miles.

"(7)(A) Nothing in this subsection shall be construed to affect or impair the validity of regulations promulgated by the Secretary of Transportation pursuant to the Hazardous Materials Transportation Act.

(B) Nothing in this subsection shall be construed to affect, modify, or render invalid any requirements in regulations promulgated prior to January 1, 1983 applicable to any acutely hazardous waste identified or listed under section 3001 which is generated by any generator during any calendar month in a total quantity less than 1,000 kilograms.

"(8) Effective March 31, 1986, unless the Administrator promulgates standards as provided in paragraph (1) of this subsection prior to such date, hazardous waste generated by any generator in a total quantity greater than 100 kilograms but less than 1,000 kilograms during a calendar month shall be subject to the following requirements until the standards referred to in paragraph (1) of this subsection have become effective:

"(A) the notice requirements of paragraph (3) of this subsection shall apply and in addition, the information provided in the form shall include the name of the waste transporters and the name and address of the facility designated to receive the waste;

"(B) except in the case of the onsite storage referred to in paragraph (6) of this subsection, the treatment, storage, or disposal of such waste shall occur at a facility with interim status or a permit under this subtitle;

"(C) generators of such waste shall file manifest exception reports as required of generators producing greater amounts of hazardous waste per month except that such reports shall be filed by January 31, for any waste shipment occurring in the last half of the preceding calendar year, and by July 31, for any waste shipment occurring in the first half of the calendar year; and

"(D) generators of such waste shall retain for 3 years a copy of the manifest signed by the designated facility that has received the waste.

Nothing in this paragraph shall be construed as a determination of the standards appropriate under paragraph (1).

"(9) The last sentence of section 3010(b) shall not apply to regulations promulgated under this subsection.

Ed. Note: Section 2(j) of the Hazardous and Solid Waste Amendments of 1984 authorizes the following appropriation:

"There is authorized to be appropriated for purposes of section 221(b) of this Act (entitled "Small Quantity Generator Waste") $500,000 for each of the fiscal years 1985 through 1987."

"(e) SPECIFIED WASTES.—

"(1) Not later than 6 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall, where appropriate, list under subsection (b)(1), additional wastes containing chlorinated dioxins or chlorinated-dibenzofurans. Not later than one year after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall, where appropriate, list under subsection (b)(1) wastes containing remaining halogenated dioxins and halogenated-dibenzofurans.

"(2) Not later than 15 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall make a determination of whether or not to list under subsection (b)(1) the following wastes: Chlorinated Aliphatics, Dioxin, Dimethyl Hydrazine, TDI (toluene diisocyanate), Carbamates, Bromacil, Linuron, Organo-bromines, solvents, refining wastes, chlorinated aromatics, dyes and pigments, inorganic chemical industry wastes, lithium batteries, coke byproducts, paint production wastes, and coal slurry pipeline effluent.

"(f) DELISTING PROCEDURES.—

"(1) When evaluating a petition to exclude a waste generated at a particular facility from listing under this section, the Administrator shall consider factors (including additional constituents) other than those for which the waste was listed if the Administrator has a reasonable basis to believe that such additional factors could cause the waste to be a hazardous waste. The Administrator shall provide notice and opportunity for comment on these additional factors before granting or denying such petition.

"(2)(A) To the maximum extent practicable the Administrator shall publish in the Federal Register a proposal to grant or deny a petition referred to in paragraph (1) within 12 months after receiving a complete application to exclude a waste generated at a particular facility from being regulated as a hazardous waste and shall grant or deny such a petition within 24 months after receiving a complete application.

"(B) The temporary granting of such a petition prior to the enactment of the Hazardous and Solid Waste Amendments of 1984 without the opportunity for public comment and the full consideration of such comments shall not continue for more than 24 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984. If a final decision to grant or deny such a petition has not been promulgated after notice and opportunity for public comment within the time limit prescribed by the preceding sentence, any such temporary granting of such petition shall cease to be in effect.

"(g) EP TOXICITY.—Not later than 28 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 the Administrator shall examine the deficiencies of the extraction procedure toxicity characteristic as a predictor of the leaching potential of wastes and make changes in the extraction procedure toxicity characteristic, including changes in the leaching media, as are necessary to insure that it accurately predicts the leaching potential of wastes which pose a threat to human health and the environment when mismanaged.

"(h) ADDITIONAL CHARACTERISTICS.—Not later than 2 years after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall promulgate regulations under this section identifying additional characteristics of hazardous waste, including measures or indicators of toxicity.

"(i) CLARIFICATION OF HOUSEHOLD WASTE EXCLUSION.—A resource recovery facility recovering energy from the mass burning of municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this subtitle, if—

"(1) such facility—

"(A) receives and burns only—

"(i) household waste (from single and multiple dwellings, hotels, motels, and other residential sources), and

"(ii) solid waste from commercial or industrial sources that does not contain hazardous waste identified or listed under this section, and

"(B) does not accept hazardous wastes identified or listed under this section, and

"(2) the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.

"STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

42 USC 6922

"SEC. 3002. (a) IN GENERAL.—Not later than eighteen months after the date of the enactment of this section, and after notice and opportunity for public hearings and after consultation with appropriate Federal and State agencies, the Administrator shall promulgate regulations establishing such standards, applicable to generators of hazardous waste identified or listed under this subtitle, as may be necessary to protect human health and the environment. Such standards shall establish requirements respecting—

"(1) recordkeeping practices that accurately identify the quantities of such hazardous waste generated, the constituents thereof which are significant in quantity or in potential harm to human health or the environment, and the disposition of such wastes;

"(2) labeling practices for any containers used for the storage, transport, or disposal of such hazardous waste such as will identify accurately such waste;

"(3) use of appropriate containers for such hazardous waste;

"(4) furnishing of information on the general chemical composition of such hazardous waste to persons transporting, treating, storing, or disposing of such wastes;

"(5) use of a manifest system and any other reasonable means necessary to assure that all such hazardous waste generated is designated for treatment, storage, or disposal in, and arrives at treatment, storage, or disposal facilities (other than facilities on the premises where the waste is generated) for which a permit has been issued as provided in this subtitle, or pursuant to title I of the Marine Protection, Research, and Sanctuaries Act (86 Stat. 1052); and

"(6) submission of reports to the Administrator (or the State agency in any case in which such agency carries out a permit program pursuant to this subtitle) at least once every 2 years, setting out—

"(A) the quantities and nature of hazardous waste identified or listed under this subtitle that he has generated during the year;

"(B) the disposition of all hazardous waste reported under subparagraph (A);

"(C) the efforts undertaken during the year to reduce the volume and toxicity of waste generated; and

"(D) the changes in volume and toxicity of waste actually achieved during the year in question in comparison with previous years, to the extent such information is available for years prior to enactment of the Hazardous and Solid Waste Amendments of 1984.

"(b) WASTE MINIMIZATION.—Effective September 1, 1985, the manifest required by subsection (a)(5) shall contain a certification by the generator that—

"(1) the generator of the hazardous waste has a program in place to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable; and

"(2) the proposed method of treatment, storage, or disposal is that practicable method currently available to the generator which minimizes the present and future threat to human health and the environment.

"STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE

42 USC 6923

"SEC. 3003. (a) STANDARDS.—Not later than eighteen months after the date of enactment of this section, and after opportunity for public hearings, the Administrator, after consultation with the Secretary of Transportation and the States, shall promulgate regulations establishing such standards, applicable to transporters of hazardous waste identified or listed under this subtitle, as may be necessary to protect human health and the environment. Such standards shall include but need not be limited to requirements respecting—

"(1) recordkeeping concerning such hazardous waste transported, and their source and delivery points;

"(2) transportation of such waste only if properly labeled;

"(3) compliance with the manifest system referred to in section 3002(5); and

"(4) transportation of all such hazardous waste only to the hazardous waste treatment, storage, or disposal facilities which the shipper designates on the manifest form to be a facility holding a permit issued under this subtitle, or pursuant to title I of the Marine Protection, Research, and Sanctuaries Act (86 Stat. 1052).

"(b) COORDINATION WITH REGULATIONS OF SECRETARY OF TRANSPORTATION.—In case of any hazardous waste identified or listed under this subtitle which is subject to the Hazardous Materials Transportation Act (88 Stat. 2156; 49 U.S.C. 1801 and following), the regulations promulgated by the Administrator under this section shall be consistent with the requirements of such Act and the regulations thereunder. The Administrator is authorized to make recommendations to the Secretary of Transportation respecting the regulations of such hazardous waste under the Hazardous Materials Transportation Act and for addition of materials to be covered by such Act.

"(c) FUEL FROM HAZARDOUS WASTE.—Not later than 2 years after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, and after opportunity for public hearing, the Administrator shall promulgate regulations establishing standards, applicable to transporters of fuel produced (1) from any hazardous waste identified or listed under section 3001, or (2) from any hazardous waste identified or listed under section 3001 and any other materiel, as may be necessary to protect human health and the environment. Such standards may include any of the requirements set forth in paragraphs (1) through (4) of subsection (a) as may be appropriate.

"STANDARDS APPLICABLE TO OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

42 USC 6924

"Sec. 3004. (a) IN GENERAL.—Not later than eighteen months after the date of enactment of this section, and after opportunity for public hearings and after consultation with appropriate Federal and State agencies, the Administrator shall promulgate regulations establishing such performance standards, applicable to owners and operators of facilities for the treatment, storage, or disposal of hazardous waste identified or listed under this subtitle, as may be necessary to protect human health and the environment. In establishing such standards the Administrator shall, where appropriate, distinguish in such standards between requirements appropriate for new facilities and for facilities in existence on the date of promulgation of such regulations. Such standards shall include, but need not be limited to, requirements respecting—

"(1) maintaining records of all hazardous wastes identified or listed under this title which is treated, stored, or disposed of, as the case may be, and the manner in which such wastes were treated, stored, or disposed of;

"(2) satisfactory reporting, monitoring, and inspection and compliance with the manifest system referred to in section 3002(5);

"(3) treatment, storage, or disposal of all such waste received by the facility pursuant to such operating methods, techniques, and practices as may be satisfactory to the Administrator;

"(4) the location, design, and construction of such hazardous waste treatment, disposal, or storage facilities;

"(5) contingency plans for effective action to minimize unanticipated damage from any treatment, storage, or disposal of any such hazardous waste;

"(6) the maintenance of operation of such facilities and requiring such additional qualifications as to ownership, continuity of operation, training for personnel, and

financial responsibility (including financial responsibility for corrective action) as may be necessary or desirable; and

"(7) compliance with the requirements of section 3005 respecting permits for treatment, storage, or disposal.

No private entity shall be precluded by reason of criteria established under paragraph (6) from the ownership or operation of facilities providing hazardous waste treatment, storage, or disposal services where such entity can provide assurances of financial responsibility and continuity of operation consistent with the degree and duration of risks associated with the treatment, storage, or disposal of specified hazardous waste.

"(b) SALT DOME FORMATIONS, SALT BED FORMATIONS, UNDERGROUND MINES AND CAVES.—

"(1) Effective on the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, the placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine, or cave is prohibited until such time as—

"(A) the Administrator has determined, after notice and opportunity for hearings on the record in the affected areas, that such placement is protective of human health and the environment;

"(B) the Administrator has promulgated performance and permitting standards for such facilities under this subtitle; and

"(C) a permit has been issued under section 3005 (c) for the facility concerned.

"(2) Effective on the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the placement of any hazardous waste other than a hazardous waste referred to in paragraph (1) in a salt dome formation, salt bed formation, underground mine, or cave is prohibited until such time as a permit has been issued under section 3005(c) for the facility concerned.

"(3) No determination made by the Administrator under subsection (d), (e), or (g) of this section regarding any hazardous waste to which such subsection (d), (e), or (g) applies shall affect the prohibition contained in paragraph (1) or (2) of this subsection.

"(4) Nothing in this subsection shall apply to the Department of Energy Waste Isolation Pilot Project in New Mexico.

"(c) LIQUIDS IN LANDFILLS.—

"(1) Effective 6 months after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, the placement of bulk or noncontainerized liquid hazardous waste or free liquids contained in hazardous waste (whether or not absorbents have been added) in any landfill is prohibited. Prior to such date the requirements (as in effect on April 30, 1983) promulgated under this section by the Administrator regarding liquid hazardous waste shall remain in force and effect to the extent such requirements are applicable to the placement of bulk or noncontainerized liquid hazardous waste, or free liquids contained in hazardous waste, in landfills.

"(2) Not later than 15 months after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall promulgate final regulations which—

"(A) minimize the disposal of containerized liquid hazardous waste in landfills, and

"(B) minimize the presence of free liquids in containerized hazardous waste to be disposed of in landfills.

Such regulations shall also prohibit the disposal in landfills of liquids that have been absorbed in materials that biodegrade or that release liquids when compressed as might occur during routine landfill operations. Prior to the date on which such final regulations take effect, the requirements (as in effect on April 30, 1983) promulgated under this section by the Administrator shall remain in force and effect to the extent

such requirements are applicable to the disposal of containerized liquid hazardous waste, or free liquids contained in hazardous waste, in landfills.

"(3) Effective 12 months after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, the placement of any liquid which is not a hazardous waste in a landfill for which a permit is required under section 3005(c) or which is operating pursuant to interim status granted under section 3005(e) is prohibited unless the owner or operator of such landfill demonstrates to the Administrator, or the Administrator determines, that—

"(A) the only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted under section 3005(c) or operating pursuant to interim status under section 3005(e), which contains, or may reasonably be anticipated to contain, hazardous waste; and

"(B) placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water.

As used in subparagraph (B), the term 'underground source of drinking water' has the same meaning as provided in regulations under the Safe Drinking Water Act (title XIV of the Public Health Service Act).

"(4) No determination made by the Administrator under subsection (d), (e), or (g) of this section regarding any hazardous waste to which such subsection (d), (e), or (g) applies shall affect the prohibition contained in paragraph (1) of this subsection.

"(d) PROHIBITIONS ON LAND DISPOSAL OF SPECIFIED WASTES.—

"(1) Effective 22 months after the enactment of the Hazardous and Solid Waste Amendments of 1984 (except as provided in subsection (f) with respect to underground injection into deep injection wells), the land disposal of the hazardous wastes referred to in paragraph (2) is prohibited unless the Administrator determines the prohibition on one or more methods of land disposal of such waste is not required in order to protect human health and the environment for as long as the waste remains hazardous, taking into account—

"(A) the long-term uncertainties associated with land disposal,

"(B) the goal of managing hazardous waste in an appropriate manner in the first instance, and

"(C) the persistence, toxicity, mobility, and propensity to bioaccumulate of such hazardous wastes and their hazardous constituents.

For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment for a hazardous waste referred to in paragraph (2) (other than a hazardous waste which has complied with the pretreatment regulations promulgated under section (m)), unless, upon application by an interested person, it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

"(2) Paragraph (1) applies to the following hazardous wastes listed or identified under section 3001:

"(A) Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing free cyanides at concentrations greater than or equal to 1,000 mg/L.

"(B) Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing the following metals (or elements) or compounds of these metals (or elements) at concentrations greater than or equal to those specified below:

"(i) arsenic and/or compounds (as As) 500 mg/l;

"(ii) cadmium and/or compounds (as Cd) 100 mg/l;

"(iii) chromium (VI and/or compounds (as Cr VI)) 500 mg/l;

"(iv) lead and/or compounds (as Pb) 500 mg/l;

"(v) mercury and/or compounds (as Hg) 20 mg/l;

"(vi) nickel and/or compounds (as Ni) 134 mg/l;

"(vii) selenium and/or compounds (as Se) 100 mg/l; and

"(viii) thallium and/or compounds (as Th) 130 mg/l.

"(C) Liquid hazardous waste having a pH less than or equal to two (2.0).

"(D) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 50 ppm.

"(E) Hazardous wastes containing halogenated organic compounds in total concentration greater than or equal to 1,000 mg/kg.

When necessary to protect human health and the environment, the Administrator shall substitute more stringent concentration levels than the levels specified in subparagraphs (A) through (E).

"(3) During the period ending 48 months after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, this subsection shall not apply to any disposal of contaminated soil or debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action required under this subtitle.

"(e) SOLVENTS AND DIOXINS.—

"(1) Effective 24 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 (except as provided in subsection (f) with respect to underground injection into deep injection wells), the land disposal of the hazardous wastes referred to in paragraph (2) is prohibited unless the Administrator determines the prohibition of one or more methods of land disposal of such waste is not required in order to protect human health and the environment for as long as the waste remains hazardous, taking into account the factors referred to in subparagraph (A) through (C) of subsection (d)(1). For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment for a hazardous waste referred to in paragraph (2) (other than a hazardous waste which has complied with the pretreatment regulations promulgated under subsection (m)), unless upon application by an interested person it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

"(2) The hazardous wastes to which the prohibition under paragraph (1) applies are as follows—

"(A) dioxin-containing hazardous wastes numbered F020, F021, F022, and F023 (as referred to in the proposed rule published by the Administrator in the Federal Register for April 4, 1983), and

"(B) those hazardous wastes numbered F001, F002, F003, F004, and F005 in regulations promulgated by the Administrator under section 3001 (40 C.F.R. 261.31 (July 1, 1983)), as those regulations are in effect on July 1, 1983.

"(3) During the period ending 48 months after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, this subsection shall not apply to any disposal of contaminated soil or debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action required under this subtitle.

"(f) DISPOSAL INTO DEEP INJECTION WELLS; SPECIFIED SUBSECTION (d) WASTES; SOLVENTS AND DIOXINS.—

"(1) Not later than 45 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall complete a review of the disposal of all hazardous wastes referred to in paragraph (2) of subsection (d) and in paragraph (2) of subsection (e) by underground injection into deep injection wells.

"(2) Within 45 months after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall make a determination regarding the disposal by underground injection into deep injection wells of the hazardous wastes referred to in paragraph (2) of subsection (d) and the hazardous wastes referred to in paragraph (2) of subsection (e). The Administrator shall promulgate final regulations prohibiting the disposal of such wastes into such wells if it may reasonably be determined that such disposal may not be protective of human health and the environment for as long as the waste remains hazardous, taking into account the factors referred to in subparagraphs (A) through (C) of subsection (d)(1). In promulgating such regulations, the Administrator shall consider each hazardous waste referred to in paragraph (2) of subsection (d) or in paragraph (2) of subsection (e) which is prohibited from disposal into such wells by any State.

"(3) If the Administrator fails to make a determination under paragraph (2) for any hazardous waste referred to in paragraph (2) of subsection (d) or in paragraph (2) of subsection (e) within 45 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, such hazardous waste shall be prohibited from disposal into any deep injection well.

"(4) As used in this subsection, the term 'deep injection well' means a well used for the underground injection of hazardous waste other than a well to which section 7010(c) applies.

"(g) ADDITIONAL LAND DISPOSAL PROHIBITION DETERMINATIONS.—

"(1) Not later than 24 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall submit a schedule to Congress for—

"(A) reviewing all hazardous wastes listed (as of the date of the enactment of the Hazardous and Solid Waste Amendments of 1984) under section 3001 other than those wastes which are referred to in subsection (d) or (e); and

"(B) taking action under paragraph (5) of this subsection with respect to such hazardous waste.

"(2) The Administrator shall base the schedule on a ranking of such listed wastes considering their intrinsic hazard and their volume such that decisions regarding the land disposal of high volume hazardous wastes with high intrinsic hazard shall, to the maximum extent possible, be made by the date 45 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984. Decisions regarding low volume hazardous wastes with lower intrinsic hazard shall be made by the date 86 months after such date of enactment.

"(3) The preparation and submission of the schedule under this subsection shall not be subject to the Paperwork Reduction Act of 1980. No hearing on the record shall be required for purposes of preparation or submission of the schedule. The schedule shall not be subject to judicial review.

"(4) The schedule under this subsection shall require that the Administrator shall promulgate regulations in accordance with paragraph (5) or make a determination under paragraph (5)—

"(A) for at least one-third of all hazardous wastes referred to in paragraph (1) by the date 45 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984;

"(B) for at least two-thirds of all such listed wastes by the date 55 months after the date of enactment of such Amendments; and

"(C) for all such listed wastes and for all hazardous wastes identified under 3001 by the date 86 months after the date of enactment of such Amendments.

In the case of any hazardous waste identified or listed under section 3001 after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall determine whether such waste shall be prohibited from one or

more methods of land disposal in accordance with paragraph (5) within 6 months after the date of such identification or listing.

"(5) Not later than the date specified in the schedule published under this subsection, the Administrator shall promulgate final regulations prohibiting one or more methods of land disposal of the hazardous wastes listed on such schedule except for methods of land disposal which the Administrator determines will be protective of human health and the environment for as long as the waste remains hazardous, taking into account the factors referred to in subparagraph (A) through (C) of subsection (d)(1). For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment (except with respect to a hazardous waste which has complied with the pretreatment regulations promulgated under subsection (m)) unless, upon application by an interested person, it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

"(6)(A) If the Administrator fails (by the date 45 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984) to promulgate regulations or make a determination under paragraph (5) for any hazardous waste which is included in the first one-third of the schedule published under this subsection, such hazardous waste may be disposed of in a landfill or surface impoundment only if—

"(i) such facility is in compliance with the requirements of subsection (o) which are applicable to new facilities (relating to minimum technological requirements); and

"(ii) prior to such disposal, the generator has certified to the Administrator that such generator has investigated the availability of treatment capacity and has determined that the use of such landfill or surface impoundment is the only practical alternative to treatment currently available to the generator.

The prohibition contained in this subparagraph shall continue to apply until the Administrator promulgates regulations or makes a determination under paragraph (5) for the waste concerned.

"(B) If the Administrator fails (by the date 55 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984) to promulgate regulations or make a determination under paragraph (5) for any hazardous waste which is included in the first two-thirds of the schedule published under this subsection, such hazardous waste may be disposed of in a landfill or surface impoundment only if—

"(i) such facility is in compliance with the requirements of subsection (o) which are applicable to new facilities (relating to minimum technological requirements); and

"(ii) prior to such disposal the generator has certified to the Administrator that such generator has investigated the availability of treatment capacity and has determined that the use of such landfill or surface impoundment is the only practical alternative to treatment currently available to the generator.

The prohibition contained in this subparagraph shall continue to apply until the Administrator promulgates regulations or makes a determination under paragraph (5) for the waste concerned.

"(C) If the Administrator fails to promulgate regulations, or make a determination under paragraph (5) for any hazardous waste referred to in paragraph (1) within 86 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, such hazardous waste shall be prohibited from land disposal.

"(h) VARIANCES FROM LAND DISPOSAL PROHIBITIONS.—

"(1) A prohibition in regulations under subsection (d), (e), (f), or (g) shall be effective immediately upon promulgation.

"(2) The Administrator may establish an effective date different from the effective date which would otherwise apply under subsection (d), (e), (f), or (g) with respect to a specific hazardous waste which is subject to a prohibition under subsection (d), (e), (f), or (g) or under regulations under subsection (d), (e), (f), or (g). Any such other effective date shall be established on the basis of the earliest date on which adequate alternative treatment, recovery, or disposal capacity which protects human health and the environment will be available. Any such other effective date shall in no event be later than 2 years after the effective date of the prohibition which would otherwise apply under subsection (d), (e), (f), or (g).

"(3) The Administrator, after notice and opportunity for comment and after consultation with appropriate State agencies in all affected States, may on a case-by-case basis grant an extension of the effective date which would otherwise apply under subsection (d), (e), (f), or (g) or under paragraph (2) for up to one year, where the applicant demonstrates that there is a binding contractual commitment to construct or otherwise provide such alternative capacity but due to circumstances beyond the control of such applicant such alternative capacity cannot reasonably be made available by such effective date. Such extension shall be renewable once for no more than one additional year.

"(4) Whenever another effective date (hereinafter referred to as a "variance") is established under paragraph (2), or an extension is granted under paragraph (3), with respect to any hazardous waste, during the period for which such variance or extension is in effect, such hazardous waste may be disposed of in a landfill or surface impoundment only if such facility is in compliance with the requirements of subsection (o).

"(i) PUBLICATION OF DETERMINATION.—If the Administrator determines that a method of land disposal will be protective of human health and the environment, he shall promptly publish in the Federal Register notice of such determination, together with an explanation of the basis for such determination.

"(j) STORAGE OF HAZARDOUS WASTE PROHIBITED FROM LAND DISPOSAL.—In the case of any hazardous waste which is prohibited from one or more methods of land disposal under this section (or under regulations promulgated by the Administrator under any provision of this section) the storage of such hazardous waste is prohibited unless such storage is solely for the purpose of the accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.

"(k) DEFINITION OF LAND DISPOSAL.—For the purposes of this section, the term 'land disposal', when used with respect to a specified hazardous waste, shall be deemed to include, but not be limited to, any placement of such hazardous waste in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, or underground mine or cave.

"(l) BAN ON DUST SUPPRESSION.—The use of waste or used oil or other material, which is contaminated or mixed with dioxin or any other hazardous waste identified or listed under section 3001 (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited.

"(m) TREATMENT STANDARDS FOR WASTES SUBJECT TO LAND DISPOSAL PROHIBITION.—

"(1) Simultaneously with the promulgation of regulations under subsection (d), (e), (f), or (g) prohibiting one or more methods of land disposal of a particular hazardous waste, and as appropriate thereafter, the Administrator shall, after notice and an opportunity for hearings and after consultation with appropriate Federal and State agencies, promulgate regulations specifying those levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized.

"(2) If such hazardous waste has been treated to the level or by a method specified in regulations promulgated under this subsection, such waste or residue thereof shall not be subject to any prohibition promulgated under subsection (d), (e), (f), or (g) and may be disposed of in a land disposal facility which meets the requirements of this subtitle. Any regulation promulgated under this subsection for a particular hazardous waste shall become effective on the same date as any applicable prohibition promulgated under subsection (d), (e), (f), or (g).

"(n) AIR EMISSIONS.—Not later than 30 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall promulgate such regulations for the monitoring and control of air emissions at hazardous waste treatment, storage, and disposal facilities, including but not limited to open tanks, surface impoundments, and landfills, as may be necessary to protect human health and the environment.

"(o) MINIMUM TECHNOLOGICAL REQUIREMENTS.—

"(1) The regulations under subsection (e) of this section shall be revised from time to time to take into account improvements in the technology of control and measurement. At a minimum, such regulations shall require, and a permit issued pursuant to a section 3005(c) after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 by the Administrator or a State shall require—

"(A) for each new landfill or surface impoundment, each new landfill or surface impoundment unit at an existing facility, each replacement of an existing landfill or surface impoundment unit, and each lateral expansion of an existing landfill or surface impoundment unit, for which an application for a final determination regarding issuance of a permit under section 3005(c) is received after the date of enactment of the Hazardous and Solid Waste Amendments of 1984—

"(i) the installation of two or more liners and a leachate collection system above (in the case of a landfill) and between such liners; and

"(ii) ground water monitoring; and

"(B) for each incinerator which receives a permit under section 3005(c) after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the attainment of the minimum destruction and removal efficiency required by regulations in effect on June 24, 1983.

The requirements of this paragraph shall apply with respect to all waste received after the issuance of the permit.

"(2) Paragraph (1)(A)(i) shall not apply if the owner or operator demonstrates to the Administrator, and the Administrator finds for such landfill or surface impoundment, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as such liners and leachate collection systems.

"(3) The double-liner requirement set forth in paragraph (1)(A)(i) may be waived by the Administrator for any monofill, if—

"(A) such monofill contains only hazardous wastes from foundry furnace emission controls or metal-casting molding sand,

"(B) such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Extraction Procedure ("EP") toxicity characteristics set forth in regulations under this subtitle, and

"(C) such monofill meets the same requirements as are applicable in the case of a waiver under section 3005(j) (2) or (4).

"(4)(A) Not later than 30 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall promulgate standards requiring that new landfill units, surface impoundment units, waste piles, underground tanks and land treatment units for the storage, treatment, or disposal of hazardous waste identified or listed under section 3001 shall be required to utilize approved leak detection systems.

"(B) For the purposes of subparagraph (A)—

"(i) the term 'approved leak detection system' means a system or technology which the Administrator determines to be capable of detecting leaks of hazardous constituents at the earliest practicable time; and

"(ii) the term 'new units' means units on which construction commences after the date of promulgation of regulations under this paragraph.

"(5)(A) The Administrator shall promulgate regulations or issue guidance documents implementing the requirements of paragraph (1)(A) within 2 years after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984.

"(B) Until the effective date of such regulations or guidance documents, the requirement for the installation of two or more liners may be satisfied by the installation of a top liner designed, operated, and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any post-closure monitoring period), and a lower liner designed, operated and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy such requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

"(6) Any permit under section 3005 which is issued for a landfill located within the State of Alabama shall require the installation of two or more liners and a leachate collection system above and between such liners, notwithstanding any other provision of this Act.

"(7) In addition to the requirements set forth in this subsection, the regulations referred to in paragraph (1) shall specify criteria for the acceptable location of new and existing treatment, storage, or disposal facilities as necessary to protect human health and the environment. Within 18 months after the enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall publish guidance criteria identifying areas of vulnerable hydrogeology."

"(p) GROUND WATER MONITORING.—The standards under this section concerning ground water monitoring which are applicable to surface impoundments, waste piles, land treatment units, and landfills shall apply to such a facility whether or not—

"(1) the facility is located above the seasonal high water table;

"(2) two liners and a leachate collection system have been installed at the facility; or

"(3) the owner or operator inspects the liner (or liners) which has been installed at the facility.

This subsection shall not be construed to effect other exemptions or waivers from such standards provided in regulations in effect on the date of enactment of the Hazardous and Solid Waste Amendments of 1984 or as may be provided in revisions to those regulations, to the extent consistent with this subsection. The Administrator is authorized on a case-by-case basis to exempt from ground water monitoring requirements under this section (including subsection (c)) any engineered structure which the Administrator finds does not receive or contain liquid waste (nor waste containing free liquids), is designed and operated to exclude liquid from precipitation or other runoff, utilizes multiple leak detection systems within the outer layer of containment, and provides for continuing operation and maintenance of these leak detection systems during the operating period, closure, and the period required for post-closure monitoring and for which the Administrator concludes on the basis of such findings that there is a reasonable certainty hazardous constituents will not migrate beyond the outer layer of containment prior to the end of the period required for post-closure monitoring."

"(q) HAZARDOUS WASTE USED AS FUEL.—

"(1) Not later than two years after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, and after notice and opportunity for public hearing, the Administrator shall promulgate regulations establishing such—

"(A) standards applicable to the owners and operators of facilities which produce a fuel—

"(i) from any hazardous waste identified or listed under section 3001, or

"(ii) from any hazardous waste identified or listed under section 3001 and any other material;

"(B) standards applicable to the owners and operators of facilities which burn, for purposes of energy recovery, any fuel produced as provided in subparagraph (A) or any fuel which otherwise contains any hazardous waste identified or listed under section 3001; and

"(C) standards applicable to any person who distributes or markets any fuel which is produced as provided in subparagraph (A) or any fuel which otherwise contains any hazardous waste identified or listed under section 3001

as may be necessary to protect human health and the environment. Such standards may include any of the requirements set forth in paragraph (1) through (7) of subsection (a) as may be appropriate. Nothing in this subsection shall be construed to effect or impair the provisions of section 3001(b)(3). For purposes of this subsection, the term hazardous waste listed under section 3001 includes any commercial chemical product which is listed under section 3001 and which, in lieu of its original intended use, is (i) produced for use as (or as a component of) a fuel, (ii) distributed for use as a fuel, or (iii) burned as a fuel.

"(2)(A) This subsection, subsection (r), and subsection (s) shall not apply to petroleum refinery wastes containing oil which are converted into petroleum coke at the same facility at which such wastes were generated, unless the resulting coke product would exceed one or more characteristics by which a substance would be identified as a hazardous waste under section 3001.

"(B) The Administrator may exempt from the requirements of this subsection, subsection (r), or subsection (s) facilities which burn de minimis quantities of hazardous waste as fuel, as defined by the Administrator, if the wastes are burned at the same facility at which such wastes are generated; the waste is burned to recover useful energy, as determined by the Administrator on the basis of the design and operating characteristics of the facility and the heating value and other characteristics of the waste; and the waste is burned in a type of device determined by the Administrator to be designed and operated at a destruction and removal efficiency sufficient such that protection of human health and environment is assured.

"(C)(i) After the date of the enactment of the Hazardous and Solid Waste Amendments of 1984 and until standards are promulgated and in effect under paragraph (2) of this subsection, no fuel which contains any hazardous waste may be burned in any tennant kiln which is located within the boundaries of any incorporated municipality with a population greater than 300,000 (based on the most recent census statistics) unless such kiln fully complies with regulations (as in effect on the date of the enactment of the Hazardous and Solid Waste Amendments of 1984) under this subtitle which are applicable to incinerators.

"(ii) Any person who knowingly violates the prohibition contained in clause (i) shall be deemed to have violated section 3008(d)(2).

"(r) LABELING.—

(1) Notwithstanding any other provision of law, until such time as the Administrator promulgates standards under subsection (q) specifically superseding this requirement, it shall be unlawful for any person who is required to file a notification in accordance with paragraph (1) or (3) of section 3010 to distribute or market any fuel which is produced from any hazardous waste identified or listed under section 3001, or any fuel which otherwise contains any hazardous waste identified or listed under section 3001 if the invoice or the bill of sale fails—

"(A) to bear the following statement: 'WARNING: THIS FUEL CONTAINS HAZARDOUS WASTES', and

"(B) to list the hazardous wastes contained therein.

Beginning ninety days after the enactment of the Hazardous and Solid Waste Amendments of 1984, such statement shall be located in a conspicuous place on every such invoice or bill of sale and shall appear in conspicuous and legible type in contrast by typography, layouts, or color with other printed matter on the invoice or bill of sale.

"(2) Unless the Administrator determines otherwise as may be necessary to protect human health and the environment, this subsection shall not apply to fuels produced from petroleum refining waste containing oil if—

"(A) such materials are generated and reinserted on site into the refining process;

"(B) contaminants are removed; and

"(C) such refining waste containing oil is converted along with normal process streams into petroleum-derived fuel products at a facility at which crude oil is refined into petroleum products and which is classified as a number SIC 2911 facility under the Office of Management and Budget Standard Industrial Classification Manual.

"(3) Unless the Administrator determines otherwise as may be necessary to protect human health and the environment, this subsection shall not apply to fuels produced from oily materials, resulting from normal petroleum refining, production and transportation practices, if (A) contaminants are removed; and (B) such oily materials are converted along with normal process streams into petroleum-derived fuel products at a facility at which crude oil is refined into petroleum products and which is classified as a number SIC 2911 facility under the Office of Management and Budget Standard Classification Manual.

"(s) RECORDKEEPING.—Not later than 15 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall promulgate regulations requiring that any person who is required to file a notification in accordance with subparagraph (1), (2), or (3), or section 3010(a) shall maintain such records regarding fuel blending, distribution, or use as may be necessary to protect human health and the environment.

"(t) FINANCIAL RESPONSIBILITY PROVISIONS.—

"(1) Financial responsibility required by subsection (a) of this section may be established in accordance with regulations promulgated by the Administrator by any one, or any combination, of the following: insurance, guarantee, surety bond, letter of credit, or qualification as a self-insurer. In promulgating requirements under this section, the Administrator is authorized to specify policy or other contractual terms, conditions, or defenses which are necessary or are unacceptable in establishing such evidence of financial responsibility in order to effectuate the purposes of this Act.

"(2) In any case where the owner or operator is in bankruptcy, reorganization, or arrangement pursuant to the Federal Bankruptcy Code or where (with reasonable diligence) jurisdiction in any State court or any Federal Court cannot be obtained over an owner or operator likely to be solvent at the time of judgement, any claim arising from conduct for which evidence of financial responsibility must be provided under this section may be asserted directly against the guarantor providing such evidence of financial responsibility. In the case of any action pursuant to this subsection, such guarantor shall be entitled to involve all rights and defenses which would have been available to the owner or operator if any action had been brought against the owner or operator by the claimant and which would have been available to the guarantor if an action had been brought against the guarantor by the owner or operator.

"(3) The total liability of any guarantor shall be limited to the aggregate amount which the guarantor has provided as evidence of financial responsibility to the owner or operator under this Act. Nothing in this subsection shall be construed to limit any other State or Federal statutory, contractual or common law liability of a guarantor to its owner or operator including, but not limited to, the liability of such guarantor for bad faith either in negotiating or in failing to negotiate the settlement of any claim. Nothing in this subsection shall be construed to diminish the liability of any person under section 107 or 111 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 or other applicable law.

"(4) For the purpose of this subsection, the term 'guarantor' means any person, other than the owner or operator, who provides evidence of financial responsibility for an owner or operator under this section."

"(u) CONTINUING RELEASES AT PERMITTED FACILITIES.— Standards promulgated under this section shall require, and a permit issued after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 by the Administrator or a State shall require, corrective action for all releases of hazardous waste or constituents from any solid waste management unit at a treatment, storage, or disposal facility seeking a permit under this subtitle, regardless of the time at which waste was placed in such unit. Permits issued under section 3005 shall contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action.

"(v) CORRECTIVE ACTIONS BEYOND FACILITY BOUNDARY.—As promptly as practicable after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall amend the standards under this section regarding corrective action required at facilities for the treatment, storage, or disposal, of hazardous waste listed or identified under section 3001 to require that corrective action be taken beyond the facility boundary where necessary to protect human health and the environment unless the owner or operator of the facility concerned demonstrates to the satisfaction of the Administrator that, despite the owner or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. Such regulations shall take effect immediately upon promulgation, notwithstanding section 3010(b), and shall apply to—

"(1) all facilities operating under permits issued under subsection (c), and

"(2) all landfills, surface impoundments, and waste pile units (including any new units, replacements of existing units, or lateral expansions of existing units) which receive hazardous waste after July 26, 1982.

Pending promulgation of such regulations, the Administrator shall issue corrective action orders for facilities referred to in paragraph (1) and (2), on a case-by-case basis, consistent with the purposes of this subsection.

"(w) UNDERGROUND TANKS.—Not later than March 1, 1985, the Administrator shall promulgate final permitting standards under this section for underground tanks that cannot be entered for inspection. Within 48 months after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, such standards shall be modified, if necessary, to cover at a minimum all requirements and standards described in section 9003.

"(x) MINING AND OTHER SPECIAL WASTES.—If (1) solid waste from the extraction, beneficiation or processing of ores and minerals, including phosphate rock and overburden from the mining of uranium, (2) fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels, or (3) cement kiln dust waste, is subject to regulation under this subtitle, the Administrator is authorized to modify the requirements of subsections (o), (d), (e), (f), (g), (o), and (u) and section 3005(j), in the case of landfills or surface impoundments receiving such solid waste, to take into account the special characteristics of such wastes, the practical difficulties associated with implementation of such requirements, and site-specific characteristics, including but not limited to the climate, geology, hydrology and soil chemistry at the site, so long as such modified requirements assure protection of human health and the environment.

"PERMITS FOR TREATMENT, STORAGE, OR DISPOSAL OF HAZARDOUS WASTE

42 USC 6925

"SEC. 3005. (a) PERMIT REQUIREMENTS.—Not later than eighteen months after the date of the enactment of this section, the Administrator shall promulgate regulations requiring each person owning or operating an existing facility or planning to construct a new facility for the treatment, storage, or disposal of hazardous waste identified or listed under this subtitle to have a permit issued pursuant to this section. Such regulations shall take effect on the date provided in section 3010 and upon and after such date the treatment, storage, or disposal of any such hazardous waste and the construction of any new facility for the treatment, storage, or disposal of any such hazardous waste is prohibited except in accordance with such a permit. No permit shall be required under this section in order to construct a facility if such facility is constructed pursuant to an approval issued by the Administrator under section 6(e) of the Toxic Substances Control Act for the incineration of polychlorinated biphenyls and any person owning or operating such a facility may, at any time after operation or construction of such facility has begun, file an application for a permit pursuant to this section authorizing such facility to incinerate hazardous waste identified or listed under this subtitle.

"(b) REQUIREMENTS OF PERMIT APPLICATION.—Each application for a permit under this section shall contain such information as may be required under regulations promulgated by the Administrator, including information respecting—

"(1) estimates with respect to the composition, quantities, and concentrations of any hazardous waste identified or listed under this subtitle, or combinations of any such hazardous waste and any other solid waste, proposed to be disposed of, treated, transported, or stored, and the time, frequency, or rate of which such waste is proposed to be disposed of, treated, transported, or stored; and

"(2) the site at which such hazardous waste or the products of treatment of such hazardous waste will be disposed of, treated, transported to, or stored.

"(c) PERMIT ISSUANCE.—

(1) Upon a determination by the Administrator (or a State, if applicable), of compliance by a facility for which a permit is applied for under this section with the requirements of this section and section 3004, the Administrator (or the State) shall issue a permit for such facilities. In the event permit applicants propose modification of their facilities, or in the event the Administrator (or the State) determines that modifications are necessary to conform to the requirements under this section and section 3004, the permit shall specify the time allowed to complete the modifications.

"(2) (A)(i) Not later than the date 4 years after the enactment of the Hazardous and Solid Waste Amendments of 1984, in the case of each application under this subsection for a permit for a land disposal facility which was submitted before such date, the Administrator shall issue a final permit pursuant to such application or issue a final denial of such application.

"(ii) Not later than the date 5 years after the enactment of the Hazardous and Solid Waste Amendments of 1984, in the case of each application for a permit under this subsection for an incinerator facility which was submitted before such date, the Administrator shall issue a final permit pursuant to such application or issue a final denial of such application.

"(B) Not later than the date 8 years after the enactment of the Hazardous and Solid Waste Amendments of 1984, in the case of each application for a permit under this subsection for any facility (other than a facility referred to in subparagraph (A)) which was submitted before such date, the Administrator shall issue a final permit pursuant to such application or issue a final denial of such application.

"(C) The time periods specified in this paragraph shall also apply in the case of any State which is administering an authorized hazardous waste program under section 3006. Interim status under subsection (e) shall terminate for each facility referred to in subparagraph (A)(i) or (B) on the expiration of the 5 or 8 year period referred to in subparagraph (A) or (B), whichever is applicable, unless the owner or operator of the facility applies for a final determination regarding the issuance of a permit under this subsection within—

"(i) 2 years after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984 (in the case of a facility referred to in subparagraph (A)(i)), or

"(ii) 4 years after such date of enactment (in the case of a facility referred to in subparagraph (B)).

"(3) Any permit under this section shall be for a fixed term, not to exceed 10 years in the case of any land disposal facility, storage facility, or incinerator or other treatment facility. Each permit for a land disposal facility shall be reviewed 5 years after date of issuance or reissuance and shall be modified as necessary to assure that the facility continues to comply with the currently applicable requirements of this section and section 3004. Nothing in this subsection shall preclude the Administrator from reviewing and modifying a permit at any time during its term. Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology as well as changes in applicable regulations. Each permit issued under this section shall contain such terms and conditions as the Administrator (or the State) determines necessary to protect human health and the environment.

"(d) PERMIT REVOCATION.—Upon a determination by the Administrator (or by a State, in the case of a State having an authorized hazardous waste program under section 3006) of noncompliance by a facility having a permit under this title with the requirements of this section or section 3004, the Administrator (or State, in the case of a State having an authorized hazardous waste program under section 3006) shall revoke such permit.

"(e) INTERIM STATUS.—

(1) Any person who—

"(A) owns or operates a facility required to have a permit under this section which facility—

"(i) was in existence on November 19, 1980, or

"(ii) is in existence on the effective date of statutory or regulatory changes under this Act that render the facility subject to the requirement to have a permit under this section,

"(B) has complied with the requirements of section 3010(a), and

"(C) has made an application for a permit under this section shall be treated as having been issued such permit until such time as final administrative disposition of such application is made, unless the Administrator or other plaintiff proves that final administrative disposition of such application has not been made because of the failure of the applicant to furnish information reasonably required or requested in order to process the application.

This paragraph shall not apply to any facility which has been previously denied a permit under this section or if authority to operate the facility under this section has been previously terminated.

"(2) In the case of each land disposal facility which has been granted interim status under this subsection before the date of enactment of the Hazardous and Solid Waste Amendments of 1984, interim status shall terminate on the date 12 months after the date of the enactment of such Amendments unless the owner or operator of such facility—

"(A) applies for a final determination regarding the issuance of a permit under subsection (c) for such facility before the date 12 months after the date of the enactment of such Amendments; and

"(B) certifies that such facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

"(3) In the case of each land disposal facility which is in existence on the effective date of statutory or regulatory changes under this Act that render the facility subject to the requirement to have a permit under this section and which is granted interim status under this subsection, interim status shall terminate on the date 12 months after the date on which the facility first becomes subject to such permit requirement unless the owner or operator of such facility—

"(A) applies for a final determination regarding the issuance of a permit under subsection (c) for such facility before the date 12 months after the date on which the facility first becomes subject to such permit requirement; and

"(B) certifies that such facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

"(f) COAL MINING WASTES AND RECLAMATION PERMITS.—Notwithstanding subsection (a) through (e) of this section, any surface coal mining and reclamation permit covering any coal mining wastes or overburden which has been issued or approved under the Surface Mining Control and Reclamation Act of 1977 shall be deemed to be a permit issued pursuant to this section with respect to the treatment, storage, or disposal of such wastes or overburden. Regulations promulgated by the Administrator under this subtitle

shall not be applicable to treatment, storage, or disposal of coal mining wastes and overburden which are covered by such a permit.

"(g) RESEARCH, DEVELOPMENT, AND DEMONSTRATION PERMITS.—

(1) The Administrator may issue a research, development, and demonstration permit for any hazardous waste treatment facility which proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards for such experimental activity have not been promulgated under this subtitle. Any such permit shall include such terms and conditions as will assure protection of human health and the environment. Such permits—

"(A) shall provide for the construction of such facilities, as necessary, and for operation of the facility for not longer than one year (unless renewed as provided in paragraph (4)), and

"(B) shall provide for the receipt and treatment by the facility of only those types and quantities of hazardous waste which the Administrator deems necessary for purposes of determining the efficacy and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment, and

"(C) shall include such requirements as the Administrator deems necessary to protect human health and the environment (including, but not limited to, requirements regarding monitoring, operation, insurance or bonding, financial responsibility, closure, and remedial action), and such requirements as the Administrator deems necessary regarding testing and providing of information to the Administrator with respect to the operation of the facility.

The Administrator may apply the criteria set forth in this paragraph in establishing the conditions of each permit without separate establishment of regulations implementing such criteria.

"(2) For the purpose of expediting review and issuance of permits under this subsection, the Administrator may, consistent with the protection of human health and the environment, modify or waive permit application and permit issuance requirements established in the Administrator's general permit regulations except that there may be no modification or waiver of regulations regarding financial responsibility (including insurance) or of procedures established under section 7004(b)(2) regarding public participation.

"(3) The Administrator may order an immediate termination of all operations at the facility at any time he determines that termination is necessary to protect human health and the environment.

"(4) Any permit issued under this subsection may be renewed not more than 3 times. Each such renewal shall be for a period of not more than 1 year.

"(h) WASTE MINIMIZATION.—Effective September 1, 1985, it shall be a condition of any permit issued under this section for the treatment, storage, or disposal of hazardous waste on the premises where such waste was generated that the permittee certify, no less often than annually, that—

"(1) the generator of the hazardous waste has a program in place to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable; and

"(2) the proposed method of treatment, storage, or disposal is that practicable method currently available to the generator which minimizes the present and future threat to human health and the environment.

"(i) INTERIM STATUS FACILITIES RECEIVING WASTES AFTER JULY 26, 1982.—The standards concerning ground water monitoring, unsaturated zone monitoring, and

corrective action, which are applicable under section 3004 to new landfills, surface impoundments, land treatment units, and waste-pile units required to be permitted under subsection (c) shall also apply to any landfill, surface impoundment, land treatment unit, or waste-pile unit qualifying for the authorization to operate under subsection (e) which receives hazardous waste after July 26, 1982.

"(j) INTERIM STATUS SURFACE IMPOUNDMENTS.—

"(1) Except as provided in paragraph (2), (3), or (4), each surface impoundment in existence on the date of enactment of the Hazardous and Solid Waste Amendments of 1984 and qualifying for the authorization to operate under subsection (e) of this section shall not receive, store, or treat hazardous waste after the date 4 years after such date of enactment unless such surface impoundment is in compliance with the requirements of section 3004(o)(1)(A) which would apply to such impoundment if it were new.

"(2) Paragraph (1) of this subsection shall not apply to any surface impoundment which (A) has at least one liner, for which there is no evidence that such liner is leaking; (B) is located more than 1/4 mile from an underground source of drinking water; and (C) is in compliance with generally applicable ground water monitoring requirements for facilities with permits under subsection (c) of this section.

"(3) Paragraph (1) of this subsection shall not apply to any surface impoundment which (A) contains treated waste water during the secondary or subsequent phases of an aggressive biological treatment facility subject to a permit issued under section 402 of the Clean Water Act (or which holds such treated waste water after treatment and prior to discharge); (B) is in compliance with generally applicable ground water monitoring requirements for facilities with permits under subsection (c) of this section; and (C)(i) is part of a facility in compliance with section 301(b)(2) of the Clean Water Act, or (ii) in the case of a facility for which no effluent guidelines required under section 304(b)(2) of the Clean Water Act are in effect and no permit under section 402(a)(1) of such Act implementing section 301(b)(2) of such Act has been issued, is part of a facility in compliance with a permit under section 402 of such Act, which is achieving significant degradation of toxic pollutants and hazardous constituents contained in the untreated waste stream and which has identified those toxic pollutants and hazardous constituents in the untreated waste stream to the appropriate permitting authority.

"(4) The Administrator (or the State, in the case of a State with an authorized program), after notice and opportunity for comment, may modify the requirements of paragraph (1) for any surface impoundment if the owner or operator demonstrates that such surface impoundment is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time. The Administrator or the State shall take into account locational criteria established under section 3004(o)(7).

"(5) The owner or operator of any surface impoundment potentially subject to paragraph (1) who has reason to believe that on the basis of paragraph (2), (3), or (4) such surface impoundment is not required to comply with the requirements of paragraph (1), shall apply to the Administrator (or the State, in the case of a State with an authorized program) not later than twenty-four months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 for a determination of the applicability of paragraph (1) (in the case of paragraph (2) or (3)) or for a modification of the requirements of paragraph (1) (in the case of paragraph (4)), with respect to such surface impoundment. Such owner or operator shall provide, with such application, evidence pertinent to such decision, including:

"(A) an application for a final determination regarding the issuance of a permit under subsection (c) of this section for such facility, if not previously submitted;

"(B) evidence as to compliance with all applicable ground water monitoring requirements and the information and analysis from such monitoring;

"(C) all reasonably ascertainable evidence as to whether such surface impoundment is leaking; and

"(D) in the case of applications under paragraph (2) or (3), a certification by a registered professional engineer with academic training and experience in ground water hydrology that—

"(i) under paragraph (2), the liner of such surface impoundment is designed, constructed, and operated in accordance with applicable requirements, such surface impoundment is more than 1/4 mile from an underground source of drinking water and there is no evidence such liner is leaking; or

"(ii) under paragraph (3), based on analysis of those toxic pollutants and hazardous constituents that are likely to be present in the untreated waste stream, such impoundment satisfies the conditions of paragraph (3).

In the case of any surface impoundment for which the owner or operator fails to apply under this paragraph within the time provided by this paragraph or paragraph (4), such surface impoundment shall comply with paragraph (1) notwithstanding paragraph (2), (3), or (4). Within twelve months after receipt of such application and evidence and not later than thirty-six months after such date of enactment, and after notice and opportunity to comment, the Administrator (or, if appropriate, the State) shall advise such owner or operator on the applicability of paragraph (1) to such surface impoundment or as to whether and how the requirements of paragraph (1) shall be modified and applied to such surface impoundment.

"(6)(A) In any case in which a surface impoundment becomes subject to paragraph (1) after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 due to the promulgation of additional listings or characteristics for the identification of hazardous waste under section 3001, the period for compliance in paragraph (1) shall be four years after the date of such promulgation, the period for demonstrations under paragraph (4) and for submission of evidence under paragraph (5) shall be not later than twenty-four months after the date of such promulgation, and the period for the Administrator (or if appropriate, the State) to advise such owners or operators under paragraph (5) shall be not later than thirty-six months after the date of promulgation.

"(B) In any case in which a surface impoundment is initially determined to be excluded from the requirements of paragraph (1) but due to a change in condition (including the existence of a leak) no longer satisfies the provisions of paragraph (2), (3), or (4) and therefore becomes subject to paragraph (1), the period for compliance in paragraph (1) shall be two years after the date of discovery of such change of condition, or in the case of a surface impoundment excluded under paragraph (3) three years after such date of discovery.

"(7)(A) The Administrator shall study and report to the Congress on the number, range of size, construction, likelihood of hazardous constituents migrating into ground water, and potential threat to human health and the environment of existing surface impoundments excluded by paragraph (3) from the requirements of paragraph (1). Such report shall address the need, feasibility, and estimated costs of subjecting such existing surface impoundments to the requirements of paragraph (1).

"(B) In the case of any existing surface impoundment or class of surface impoundments from which the Administrator (or the State, in the case of a State with an authorized program) determines hazardous constituents are likely to migrate into ground water, the Administrator (or if appropriate, the State) is authorized to impose such requirements as may be necessary to protect human

health and the environment, including the requirements of section 3004(o) which would apply to such impoundments if they were new.

"(C) In the case of any surface impoundment excluded by paragraph (2) from the requirements of paragraph (1) which is subsequently determined to be leaking, the Administrator (or, if appropriate, the State) shall require compliance with paragraph (1), unless the Administrator (or, if appropriate, the State) determines that such compliance is not necessary to protect human health and the environment.

"(3) In the case of any surface impoundment in which the liners and leak detection system have been installed pursuant to the requirements of paragraph (1) and in good faith compliance with section 3004(o) and the Administrator's regulations and guidance documents governing liners and leak detection systems, no liner or leak detection system which is different from that which was so installed pursuant to paragraph (1) shall be required for such unit by the Administator when issuing the first permit under this section to such facility. Nothing in this paragraph shall' preclude the Administrator from requiring installation of a new liner when the Administrator has reason to believe that any liner installed pursuant to the requirements of this subsection is leaking.

"(9) In the case of any surface impoundment which has been excluded by paragraph (2) on the basis of a liner meeting the definition under paragraph (1)(A)(ii), at the closure of such impoundment the Administrator shall require the owner or operator of such impoundment to remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment shall be required to comply with appropriate post-closure requirements, including but not limited to ground water monitoring and corrective action.

"(10) Any incremental cost attributable to the requirements of this subsection or section 3004(o) shall not be considered by the Administrator (or the State, in the case of a State with an authorized program under section 402 of the Clean Water Act)—

"(A) in establishing effluent limitations and standards under section 301, 304, 306, 307, or 402 of the Clean Water Act based on effluent limitations guidelines and standards promulgated any time before twelve months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984; or

"(B) in establishing any other effluent limitations to carry out the provisions of section 301, 307, or 402 of the Clean Water Act on or before October 1, 1988.

"(11)(A) If the Administrator allows a hazardous waste which is prohibited from one or more methods of land disposal under subsection (d), (e), or (g) of section 3004 (or under regulations promulgated by the Administrator under such subsections) to be placed in a surface impoundment (which is operating pursuant to interim status) for storage and treatment, such impoundment shall meet the requirements that are applicable to new surface impoundments under section 3004(o)(1), unless such impoundment meets the requirements of paragraph (2) or (4).

"(B) In the case of any hazardous waste which is prohibited from one or more methods of land disposal under subsection (d), (e), or (g) of section 3004 (or under regulations promulgated by the Administrator under such subsection) the placement or maintenance of such hazardous waste in a surface impoundment for treatment is prohibited as of the effective date of such prohibition unless the treatment residues which are hazardous are, at a minimum, removed for subsequent management within one year of the entry of the waste into the surface impoundment.

"(12)(A) For the purposes of paragraph (2)(A) of this subsection, the term 'liner' means—

"(i) a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility; or

"(ii) a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility.

"(B) For the purposes of this subsection, the term 'aggressive biological treatment facility' means a system of surface impoundments in which the initial impoundment of the secondary treatment segment of the facility utilizes intense mechanical aeration to enhance biological activity to degrade waste water pollutants and

"(i) the hydraulic retention time in such initial impoundment is no longer than 5 days under normal operating conditions, on an annual average basis;

"(ii) the hydraulic retention time in such initial impoundment is no longer than 30 days under normal operating conditions, on an annual average basis; PROVIDED, That the sludge in such impoundment does not constitute a hazardous waste as identified by the extraction procedure toxicity characteristic in effect on the date of enactment of the Hazardous and Solid Waste Amendments of 1984; or

"(iii) such system utilizes activated sludge treatment in the first portion of secondary treatment.

"(C) For the purposes of this subsection, the term 'underground source or drinking water' has the same meaning as provided in regulations under the Safe Drinking Water Act (title XIV of the Public Health Service Act).

"(13) The Administrator may modify the requirements of paragraph (1) in the case of a surface impoundment for which the owner or operator, prior to October 1, 1984, has entered into, and is in compliance with, a consent order, decree, or agreement with the Administrator or a State with an authorized program mandating corrective action with respect to such surface impoundment that provides a degree of protection of human health and the environment which is at a minimum equivalent to that provided by paragraph (1).

"AUTHORIZED STATE HAZARDOUS WASTE PROGRAMS

42 USC 6926

"Sec. 3006. (a) FEDERAL GUIDELINES.—Not later than eighteen months after the date of enactment of this Act, the Administrator, after consultation with State authorities, shall promulgate guidelines to assist States in the development of State hazardous waste programs.

"(b) AUTHORIZATION OF STATE PROGRAM.—Any State which seeks to administer and enforce a hazardous waste program pursuant to this subtitle may develop and, after notice and opportunity for public hearing, submit to the Administrator an application, in such form as he shall require, for authorization of such program. Within ninety days following submission of an application under this subsection, the Administrator shall issued a notice as to whether or not he expects such program to be authorized, and within ninety days following such notice (and after opportunity for public hearing) he shall publish his findings as to whether or not the conditions listed in item (1), (2), and (3) below have been met. Such State is authorized to carry out such program in lieu of the Federal program under this subtitle in such State and to issue and enforce permits for the storage, treatment, or disposal of hazardous waste (and to enforce permits deemed to have been issued under section 3012(d)(1)) unless, within ninety days following submission of the application the Administrator notifies such State that such program may not be authorized and, within ninety days following such notice and after opportunity for public hearing, he finds that (1) such State program is not equivalent to the Federal program under this subtitle, (2) such program is not consistent with the Federal or State programs applicable in other States, or (3) such program does not provide adequate enforcement of

compliance with the requirements of this subtitle. In authorizing a State program, the Administrator may base his findings on the Federal program in effect one year prior to submission of a State's application or in effect on January 26, 1983, whichever is later.

"(c) INTERIM AUTHORIZATION.—

"(1) Any State which has in existence a hazardous waste program pursuant to State law before the date ninety days after the date of promulgation of regulations under sections 3002, 3003, 3004, and 3005, may submit to the Administrator evidence of such existing program and may request a temporary authorization to carry out such program under this subtitle. The Administrator shall, if the evidence submitted shows the existing State program to be substantially equivalent to the Federal program under this subtitle, grant an interim authorization to the State to carry out such program in lieu of the Federal program pursuant to this subtitle for a period ending no later than January 31, 1986.

"(2) The Administrator shall, by rule, establish a date for the expiration of interim authorization under this subsection.

"(3) Pending interim or final authorization of a State program for any State which reflects the amendments made by the Hazardous and Solid Waste Amendments of 1984, the State may enter into an agreement with the Administrator under which the State may assist in the administration of the requirements and prohibitions which take effect pursuant to such Amendments.

"(4) In the case of a State permit program for any State which is authorized under subsection (b) or under this subsection, until such program is amended to reflect the amendments made by the Hazardous and Solid Waste Amendments of 1984 and such program amendments receive interim or final authorization, the Administrator shall have the authority in such State to issue or deny permits or those portions of permits affected by the requirements and prohibitions established by the Hazardous and Solid Waste Amendments of 1984. The Administrator shall coordinate with States the procedures for issuing such permits.

"(d) EFFECT OF STATE PERMIT.—Any action taken by a State under a hazardous waste program authorized under this section shall have the same force and effect as action taken by the Administrator under this subtitle.

"(e) WITHDRAWAL OF AUTHORIZATION.—Whenever the Administrator determines after public hearing that a State is not administering and enforcing a program authorized under this section in accordance with requirements of this section, he shall so notify the State and, if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days, the Administrator shall withdraw authorization of such program and establish a Federal program pursuant to this subtitle. The Administrator shall not withdraw authorization of any such program unless he shall first have notified the State, and made public, in writing, the reasons for such withdrawal.

"(f) AVAILABILITY OF INFORMATION.—No State program may be authorized by the Administrator under this section unless—

"(1) such program provides for the public availability of information obtained by the State regarding facilities and sites for the treatment, storage, and disposal of hazardous waste; and

"(2) such information is available to the public in substantially the same manner, and to the same degree, as would be the case if the Administrator was carrying out the provisions of this subtitle in such State.

Ed. Note: Section 228(b) of the Hazardous and Solid Waste Amendments of 1984 includes the following amendment that does not amend:

"The amendment made by subsection (a) 228(a)—referring to Section 3006(f) AVAILABILITY OF INFORMATION shall apply with respect to State programs authorized under section 3006 before, on, or after the date of enactment of the Hazardous and Solid Waste Amendments of 1984."

"(g) AMENDMENTS MADE BY 1984 ACT.—

"(1) Any requirement or prohibition which is applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste and which is imposed under this subtitle pursuant to the amendments made by the Hazardous and Solid Waste Amendments of 1984 shall take effect in each State having an interim or finally authorized State program on the same date as such requirement takes effect in other States. The Administrator shall carry out such requirement directly in each such State unless the State program is finally authorized (or is granted interim authorization as provided in paragraph (2)) with respect to such requirement.

"(2) Any State which, before the date of the enactment of the Hazardous and Solid Waste Amendments of 1984 has an existing hazardous waste program which has been granted interim or final authorization under this section may submit to the Administrator evidence that such existing program contains (or has been amended to include) any requirement which is substantially equivalent to a requirement referred to in paragraph (1) and may request interim authorization to carry out that requirement under this subtitle. The Administrator shall, if the evidence submitted shows the State requirement to be substantially equivalent to the requirement referred to in paragraph (1), grant an interim authorization to the State to carry out such requirement in lieu of direct administration in the State by the Administrator of such requirement.

"INSPECTIONS

42 USC 6927

"Sec. 3007. (a) ACCESS ENTRY.—For purposes of developing or assisting in the development of any regulation or enforcing the provisions of this title, any person who generates, stores, treats, transports, disposes of, or otherwise handles or has handled hazardous wastes shall, upon request of any officer, employee or representative of the Environmental Protection Agency, duly designated by the Administrator, or upon request of any duly designated officer, employee or representative of a State having an authorized hazardous waste program, furnish information relating to such wastes and permit such person at all reasonable times to have access to, and to copy all records relating to such wastes. For the purposes of developing or assisting in the development of any regulation or enforcing the provisions of this title, such officers, employees or representatives are authorized—

"(1) to enter at reasonable times any establishment or other place where hazardous wastes are or have been generated, stored, treated, disposed of, or transported from;

"(2) to inspect and obtain samples from any person of any such wastes and samples of any containers or labeling for such wastes.

Each such inspection shall be commenced and completed with reasonable promptness. If the officer, employee or representative obtains any samples, prior to leaving the premises, he shall give to the owner, operator, or agent in charge a receipt describing the sample obtained and if requested a portion of each such sample equal in volume or weight to the portion retained. If any analysis is made of such samples, a copy of the results of such analysis shall be furnished promptly to the owner, operator, or agent in charge.

"(b) AVAILABILITY TO PUBLIC.—

(1) Any records, reports, or information (including records, reports, or information obtained by representatives of the Environmental Protection Agency) obtained from any person under this section shall be available to the public, except that upon a showing satisfactory to the Administrator (or the State, as the case may be) by any person that records, reports, or information, or particular part thereof, to which the Administrator (or the State, as the case may be) or any officer, employee or representative thereof has access under this section if made public, would divulge information entitled to protection under section 1905 of title 18 of the United States Code, such information or particular portion thereof shall be considered confidential in accordance with the purposes of that section, except that such record, report, document, or information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out this Act, or when relevant in any proceeding under this Act.

"(3) Any person not subject to the provisions of section 1905 of title 18 of the United States Code who knowingly and willfully divulges or discloses any information entitled to protection under this subsection shall, upon conviction, be subject to a fine of not more than $5,000 or to imprisonment not to exceed one year, or both.

"(3) In submitting data under this Act, a person required to provide such data may—

"(A) designate the data which such person believes is entitled to protection under this subsection, and

"(B) submit such designated data separately from other data submitted under this Act.

A designation under this paragraph shall be made in writing and in such manner as the Administrator may prescribe.

"(4) Notwithstanding any limitation contained in this section or any other provision of law, all information reported to, or otherwise obtained by, the Administrator (or any representative of the Administrator) under this Act shall be made available, upon written request of any duly authorized committee of the Congress, to such committee (including records, reports, or information obtained by representatives of the Environmental Protection Agency).

"(c) FEDERAL FACILITY INSPECTIONS.—Beginning 12 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall, or in the case of a State with an authorized hazardous waste program, the State may, undertake on an annual basis a thorough inspection of each facility for the treatment, storage, or disposal of hazardous waste which is owned or operated by a Federal agency to enforce its compliance with this subtitle and the regulations promulgated thereunder. The records of such inspections shall be available to the public as provided in subsection (b).

"(d) STATE-OPERATED FACILITIES.—The Administrator shall annually undertake a thorough inspection of every facility for the treatment, storage, or disposal of hazardous waste which is operated by a State or local government for which a permit is required under section 3005 of this title. The records of such inspection shall be available to the public as provided in subsection (b).

"(e) MANDATORY INSPECTIONS.—

"(1) The Administrator (or the State in the case of a State having an authorized hazardous waste program under this subtitle) shall commence a program to thoroughly inspect every facility for the treatment, storage, or disposal of hazardous waste for which a permit is required under section 3005 no less often than every 2 years as to its compliance with this subtitle (and the regulations promulgated under this subtitle). Such inspections shall commence not later than 12 months after the date of enactment

of the Hazardous and Solid Waste Amendments of 1984. The Administrator shall, after notice and opportunity for public comment, promulgate regulations governing the minimum frequency and manner of such inspections, including the manner in which records of such inspections shall be maintained and the manner in which reports of such inspections shall be filed. The Administrator may distinguish between classes and categories of facilities commensurate with the risks posed by each class or category.

"(2) Not later than 8 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall submit to the Congress a report on the potential for inspections of hazardous waste treatment, storage, or disposal facilities by nongovernmental inspectors as a supplement to inspections conducted by officers, employees, or representatives of the Environmental Protection Agency or States having authorized hazardous waste programs or operating under a cooperative agreement with the Administrator. Such report shall be prepared in cooperation with the States, insurance companies offering environmental impairment insurance, independent companies providing inspection services, and other such groups as appropriate. Such report shall contain recommendations on provisions and requirements for a program of private inspections to supplement governmental inspections.

"FEDERAL ENFORCEMENT

"Sec. 3008. (a) COMPLIANCE ORDERS.— 42 USC 6928

"(1) Except as provided in paragraph (2), whenever on the basis of any information the Administrator determines that any person has violated or is in violation of any requirement of this subtitle, the Administrator may issue an order assessing a civil penalty for any past or current violation, requiring compliance immediately or within a specified time period, or both, or the Administrator may commence a civil action in the United States district court in the district in which the violation occurred for appropriate relief, including a temporary or permanent injunction.

"(3) In the case of a violation of any requirement of this subtitle where such violation occurs in a State which is authorized to carry out a hazardous waste program under section 3006, the Administrator shall give notice to the State in which such violation has occurred prior to issuing an order or commencing a civil action under this section.

"(3) Any order issued pursuant to this subsection may include a suspension or revocation of any permit issued by the Administrator or a State under this subtitle and shall state with reasonable specificity the nature of the violation. Any penalty assessed in the order shall not exceed $25,000 per day of noncompliance for each violation of a requirement of this subtitle. In assessing such a penalty, the Administrator shall take into account the seriousness of the violation and any good faith efforts to comply with applicable requirements.

"(b) PUBLIC HEARING.—Any order issued under this section shall become final unless, no later than thirty days after the order is served, the person or persons named therein request a public hearing. Upon such request the Administrator shall promptly conduct a public hearing. In connection with any proceeding under this section the Administrator may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and may promulgate rules for discovery procedures.

"(c) VIOLATION OF COMPLIANCE ORDERS.—If a violator fails to take corrective action within the time specified in a compliance order, the Administrator may assess a civil penalty of not more than $25,000 for each day of continued noncompliance with the order and the Administrator may suspend or revoke any permit issued to the violator (whether issued by the Administrator or the State).

"(d) CRIMINAL PENALTIES.—Any person who—

"(1) knowingly transports or causes to be transported any hazardous waste identified or listed under this subtitle to a facility which does not have a permit under section this subtitle, or pursuant to title I of the Marine Protection, Research, and Sanctuaries Act (86 Stat. 1052),

"(2) knowingly treats, stores, or disposes of any hazardous waste identified or listed under this subtitle—

"(A) without a permit under this subtitle or pursuant to title I of the Marine Protection, Research, and Sanctuaries Act (86 Stat. 1052); or

"(B) in knowing violation of any material condition or requirement of such permit; or

"(C) in knowing violation of any material condition or requirement of any applicable interim status regulations or standards;

"(3) knowingly omits material information or makes any false material statement or representation in any application, label, manifest, record, report, permit, or other document filed, maintained, or used for purposes of compliance with regulations promulgated by the Administrator (or by a State in the case of an authorized State program) under this subtitle;"

"(4) knowingly generates, stores, treats, transports, disposes of, exports, or otherwise handles any hazardous waste (whether such activity took place before or takes place after the date of the enactment of this paragraph) and who knowingly destroys, alters, conceals, or fails to file any record, application, manifest, report, or other document required to be maintained or filed for purposes of compliance with regulations promulgated by the Administrator (or by a State in the case of an authorized State program) under this subtitle;

"(5) knowingly transports without a manifest, or causes to be transported without a manifest, any hazardous waste required by regulations promulgated under this subtitle (or by a State in the case of a State program authorized under this subtitle) to be accompanied by a manifest; or

"(6) knowingly exports a hazardous waste identified or listed under this subtitle

"(A) without the consent of the receiving country or,

"(B) where there exists an international agreement between the United States and the government of the receiving country establishing notice, export, and enforcement procedures for the transportation, treatment, storage, and disposal of hazardous wastes, in a manner which is not in conformance with such agreement.

shall, upon conviction, be subject to a fine of not more than $50,000 for each day of violation, or imprisonment not to exceed 2 years (5 years in the case of a violation of paragraph (1) or (2)), or both. If the conviction is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment under the respective paragraph shall be doubled with respect to both fine and imprisonment.

"(e) KNOWING ENDANGERMENT.—Any person who knowingly transports, treats, stores, disposes of, or exports any hazardous waste identified or listed under this subtitle in violation of paragraph (1), (2), (3), (4), (5), or (6) of subsection (d) of this section who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment for not more than 15 years, or both. A defendant that is an organization shall, upon conviction of violating this subsection, be subject to a fine of not more than $1,000,000.

"(f) SPECIAL RULES.—For the purposes of subsection (e)—

"(1) A person's state of mind is knowing with respect to—

"(A) his conduct, if he is aware of the nature of his conduct;

"(B) an existing circumstance, if he is aware or believes that the circumstance exists; or

"(C) a result of his conduct, if he is aware or believes that his conduct is substantially certain to cause danger of death or serious bodily injury.

"(2) in determining whether a defendant who is a natural person knew that his conduct placed another person in imminent danger of death or serious bodily injury—

"(A) the person is responsible only for actual awareness or actual belief that he possessed; and

"(B) knowledge possessed by a person other than the defendant but not by the defendant himself may not be attributed to the defendant;

PROVIDED, That in proving the defendant's possession of actual knowledge, circumstantial evidence may be used, including evidence that the defendant took affirmative steps to shield himself from relevant information.

"(3) It is an affirmative defense to prosecution that the conduct charged was consented to by the person endangered and that the danger and conduct charged were reasonably foreseeable hazards of —

"(A) an occupation, a business, or a profession; or

"(B) medical treatment or medical or scientific experimentation conducted by professionally approved methods and such other person had been made aware of the risks involved prior to giving consent.

The defendant may establish an affirmative defense under this subsection by a preponderance of the evidence.

"(4) All general defenses, affirmative defenses, and bars to prosecution that may apply with respect to other Federal criminal offenses may apply under subsection (e) and shall be determined by the courts of the United States according to the principles of common law as they may be interpreted in the light of reason and experience. Concepts of justification and excuse applicable under this section may be developed in the light of reason and experience.

"(5) The term 'organization' means a legal entity, other than a government, established or organized for any purpose, and such term includes a corporation, company, association, firm, partnership, joint stock company, foundation, institution, trust, society, union, or any other association of persons.

"(6) The term 'serious bodily injury' means—

"(A) bodily injury which involves a substantial risk of death;

"(B) unconsciousness;

"(C) extreme physical pain;

"(D) protracted and obvious disfigurement; or

"(E) protracted loss or impairment of the function of a bodily member, organ, or mental faculty.

"(g) CIVIL PENALTY.—Any person who violates any requirement of this subtitle shall be liable to the United States for a civil penalty in an amount not to exceed $25,000 for each such violation. Each day of such violation shall, for purposes of this subsection, constitute a separate violation.

"(h) INTERIM STATUS CORRECTIVE ACTION.—

"(1) Whenever on the basis of any information the Administrator determines that there is or has been a release of hazardous waste into the environment from a facility authorized to operate under section 3005(e) of this subtitle, the Administrator may issue an order requiring corrective action or such other response measure as he deems necessary to protect human health or the environment or the Administrator may commence a civil action in the United States district court in the district in which the facility is located for appropriate relief, including a temporary or permanent injunction.

"(2) Any order issued under this subsection may include a suspension or revocation of authorization to operate under section 2005(a) of this subtitle, shall state with reasonable specificity the nature of the required corrective action or other response measure, and shall specify a time for compliance. If any person named in an order fails to comply with the order, the Administrator may assess, and such person shall be liable to the United States for, a civil penalty in an amount not to exceed $25,000 for each day of noncompliance with the order.

"RETENTION OF STATE AUTHORITY

42 USC 6929

"Sec. 2009. Upon the effective date of regulations under this subtitle no State or political subdivision may impose any requirements less stringent than those authorized under this subtitle respecting the same matter as governed by such regulations, except that if application of a regulation with respect to any matter under this subtitle is postponed or enjoined by the action of any court, no State or political subdivision shall be prohibited from acting with respect to the same aspect of such matter until such time as such regulation takes effect. Nothing in this title shall be construed to prohibit any State or political subdivision thereof from imposing any requirements, including those for site selection, which are more stringent than those imposed by such regulations. Nothing in this title (or in any regulation adopted under this title) shall be construed to prohibit any State from requiring that the State be provided with a copy of each manifest used in connection with hazardous waste which is generated within that State or transported to a treatment, storage, or disposal facility within that State.

"EFFECTIVE DATE

42 USC 6930

"Sec. 2010. (a) PRELIMINARY NOTIFICATION.—Not later than ninety days after promulgation of regulations under section 3001 identifying by its characteristics or listing any substance as hazardous waste subject to this subtitle, any person generating or transporting such substance or owning or operating a facility for treatment, storage, or disposal of such substance shall file with the Administrator (or with States having authorized hazardous waste permit programs under section 3006) a notification stating the location and general description of such activity and the identified or listed hazardous wastes handled by such person. Not later than 15 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984—

"(1) the owner or operator of any facility which produces a fuel (A) from any hazardous waste identified or listed under section 3001, (B) from such hazardous waste identified or listed under section 3001 and any other material, (C) from used oil, or (D) from used oil and any other material;

"(2) the owner or operator of any facility (other than a single or two-family residence) which burns for purposes of energy recovery any fuel produced as provided in paragraph (1) or any fuel which otherwise contains used oil or any hazardous waste identified or listed under section 3001; and

"(3) any person who distributes or markets any fuel which is produced as provided in paragraph (1) or any fuel which otherwise contains used oil or any hazardous waste identified or listed under section 3001 shall file with the Administrator (and with the State in the case of a State with an authorized hazardous waste program) a notification stating the location and general description of the facility, together with a description of the identified or listed hazardous waste involved and, in the case of a facility referred to in paragraph (1) or (2), a description of the production or energy recovery activity carried out at the facility and such other information as the Administrator deems necessary. For purposes of the preceding provisions, the term 'hazardous waste listed under section 3001' also includes any commercial chemical product which is listed under section 3001 and which, in lieu of its original intended use, is (i) produced for use as (or as a component of) a fuel, (ii) distributed for use as a fuel, or (iii) burned as a fuel. Notification shall not be required under the second sentence of this subsection in the case of facilities (such as residential boilers) where the Administrator determines that such notification is not necessary in order for the Administrator to obtain sufficient information respecting current practices of facilities using hazardous waste for energy recovery. Nothing in this subsection shall be construed to effect or impair the provisions of section 3001(b)(3). Nothing in this subsection shall effect regulatory determinations under section 3014". In revising any regulation under section 3001 identifying additional characteristics of hazardous waste or listing any additional substance as hazardous waste subject to this subtitle, the Administrator may require any person referred to in the preceding provisions to file with the Administrator (or with States having authorized hazardous waste permit programs under section 3006) the notification described in the preceding provisions. Not more than one such notification shall be required to be filed with respect to the same substance. No identified or listed hazardous waste subject to this subtitle may be transported, treated, stored, or disposed of unless notification has been given as required under this subsection.

"(b) EFFECTIVE DATE OF REGULATION.—The regulations under this subtitle respecting requirements applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste (including requirements respecting permits for such treatment, storage, or disposal) shall take effect on the date six months after the date of promulgation thereof (or six months after the date of revision in the case of any regulation which is revised after the date required for promulgation thereof). At the time a regulation is promulgated, the Administrator may provide for a shorter period prior to the effective date, or an immediate effective date for:

"(1) a regulation with which the Administrator finds the regulated community does not need 6 months to come into compliance;

"(2) a regulation which responds to an emergency situation; or

"(3) other good cause found and published with the regulation.

"AUTHORIZATION OF ASSISTANCE TO STATES

42 USC 6931

"Sec. 2011. (a) AUTHORIZATION.—There is authorized to be appropriated $25,000,000 for each of the fiscal years 1978 and 1979, $30,000,000 for fiscal year 1980, $35,000,000 for fiscal year 1981, $40,000,000 for the fiscal year 1982, $55,000,000 for the fiscal year 1985, $60,000,000 for the fiscal year 1986, $60,000,000 for the fiscal year 1987, and $80,000,000 for the fiscal year 1988 to be used to make grants to the States for purposes of assisting the States in the development and implementation of authorized State hazardous waste programs.

"(b) ALLOCATION.—Amounts authorized to be appropriated under subsection (a) shall be allocated among the States on the basis of regulations promulgated by the Administrator, after consultation with the States, which take into account, the extent to which hazardous waste is generated, transported, treated, stored, and disposed of within each State, the extent of exposure of human beings and the environment within each State to such waste, and such other factors as the Administrator deems appropriate.

"(c) ACTIVITIES INCLUDED.—State hazardous waste programs for which grants may be made under subsection (a) may include (but shall not be limited to) planning for hazardous waste treatment, storage and disposal facilities, and the development and execution of programs to protect health and the environment from inactive facilities which may contain hazardous waste.

"HAZARDOUS WASTE SITE INVENTORY

42 USC 6933

"Sec. 3012. (a) STATE INVENTORY PROGRAMS.—Each State shall, as expeditiously as practicable, undertake a continuing program to compile, publish, and submit to the Administrator an inventory describing the location of each site within such State at which hazardous waste has at any time been stored or disposed of. Such inventory shall contain—

"(1) a description of the location of the sites at which any such storage or disposal has taken place before the date on which permits are required under section 3005 for such storage or disposal;

"(2) such information relating to the amount, nature, and toxicity of the hazardous waste at each such site as may be practicable to obtain and as may be necessary to determine the extent of any health hazard which may be associated with such site;

"(3) the name and address, or corporate headquarters of, the owner of each site, determined as of the date of preparation of the inventory;

"(4) an identification of the types or techniques of waste treatment or disposal which have been used at each such site; and

"(5) information concerning the current status of the site, including information respecting whether or not hazardous waste is currently being treated or disposed of at such site (and if not, the date on which such activity ceased) and information respecting the nature of any other activity currently carried out at such site.

For purposes of assisting the States in compiling information under this section, the Administrator shall make available to each State undertaking a program under this section such information as is available to him concerning the items specified in paragraphs (1) through (5) with respect to the sites within such State, including such information as the Administrator is able to obtain from other agencies or departments of the United States and from surveys and studies carried out by any committee or subcommittee of the Congress. Any State may exercise the authority of section 3007 for purposes of this section in the same manner and to the same extent as provided in such section in the case of States having an authorized hazardous waste program, and any State may by order require any person to submit such information as may be necessary to compile the data referred to in paragraphs (1) through (5).

"(b) ENVIRONMENTAL PROTECTION AGENCY PROGRAM.—If the Administrator determines that any State program under subsection (a) is not adequately providing information respecting the sites in such State referred to in subsection (a) the Administrator shall notify the State. If within ninety days following such notification, the State program has not been revised or amended in such manner as will adequately provide such information, the Administrator shall carry out the inventory program in such State. In any such case—

"(1) the Administrator shall have the authorities provided with respect to State programs under subsection (a);

"(2) the funds allocated under subsection (c) for grants to states under this section may be used by the Administrator for carrying out such program in such State; and

"(3) no further expenditure may be made for grants to such State under this section until such time as the Administrator determines that such State is carrying out, or will carry out, an inventory program which meets the requirements of this section.

"(a) GRANTS.—

"(1) Upon receipt of an application submitted by any State to carry out a program under this section, the Administrator may make grants to the States for purposes of carrying out such a program. Grants under this section shall be allocated among the several States by the Administrator based upon such regulations as he prescribes to carry out the purposes of this section. The Administrator may make grants to any State which has conducted an inventory program which effectively carried out the purposes of this section before the date of the enactment of the Solid Waste Disposal Act Amendments of 1980 to reimburse such State for all, or any portion of, the costs incurred by such State in conducting such program.

"(2) There are authorized to be appropriated to carry out this section $25,000,000 for each of the fiscal years 1985 through 1988.

"(d) NO IMPEDIMENT TO IMMEDIATE REMEDIAL ACTION.—Nothing in this section shall be construed to provide that the Administrator or any State should, pending completion of the inventory required under this section, postpone undertaking any enforcement or remedial action with respect to any site at which hazardous waste has been treated, stored, or disposed of.

"MONITORING, ANALYSIS, AND TESTING

42 USC 6934

"Sec. 3013. (a) AUTHORITY OF ADMINISTRATOR.—If the Administrator determines, upon receipt of any information, that—

"(1) the presence of any hazardous waste at a facility or site at which hazardous waste is, or has been, stored, treated, or disposed of, or

"(2) the release of any such waste from such facility or site may present a substantial hazard to human health or the environment, he may issue an order requiring the owner or operator of such facility or site to conduct such monitoring, testing, analysis, and reporting with respect to such facility or site as the Administrator deems reasonable to ascertain the nature and extent of such hazard.

"(b) PREVIOUS OWNERS AND OPERATORS.—In the case of any facility or site not in operation at the time a determination is made under subsection (a) with respect to the facility or site if the Administrator finds that the owner of such facility or site, could not reasonably be expected to have actual knowledge of the presence of hazardous waste at such facility or site and of its potential for release, he may issue an order requiring the most recent previous owner or operator of such facility or site who could reasonably be expected to have such actual knowledge to carry out the actions referred to in subsection (a).

"(c) PROPOSAL.—Any order under subsection (a) or (b) shall require the person to whom such order is issued to submit to the Administrator within 30 days from the issuance of such order a proposal for carrying out the required monitoring, testing, analysis, and reporting. The Administrator may, after providing such person with an opportunity to confer with the Administrator respecting such proposal, require such person to carry out such monitoring, testing, analysis, and reporting in accordance with such proposal, and such modifications in such proposal as the Administrator deems reasonable to ascertain the nature and extent of the hazard.

"(d) MONITORING, ETC., CARRIED OUT BY ADMINISTRATOR.—

"(1) If the Administrator determines that no owner or operator referred to in subsection (a) or (b) is able to conduct monitoring, testing, analysis, or reporting satisfactory to the Administrator, if the Administrator deems any such action carried out by an owner or operator to be unsatisfactory, or if the Administrator cannot initially determine that there is an owner or operator referred to in subsection (a) or (b) who is able to conduct such monitoring, testing, analysis, or reporting, he may—

"(A) conduct monitoring, testing, or analysis (or any combination thereof) which he deems reasonable to ascertain the nature and extent of the hazard associated with the site concerned, or

"(B) authorise a State or local authority or other person to carry out any such action,

and require, by order, the owner or operator referred to in subsection (a) or (b) to reimburse the Administrator or other authority or person for the costs of such activity.

"(2) No order may be issued under this subsection requiring reimbursement of the costs of any action carried out by the Administrator which confirms the results of an order issued under subsection (a) or (b).

"(3) For purposes of carrying out this subsection, the Administrator or any authority or other person authorized under paragraph (1) may exercise the authorities set forth in section 3007.

"(a) ENFORCEMENT.—The Administrator may commence a civil action against any person who fails or refuses to comply with any order issued under this section. Such action shall be brought in the United States district court in which the defendant is located, resides, or is doing business. Such court shall have jurisdiction to require compliance with such order and to assess a civil penalty of not to exceed $5,000 for each day during which such failure or refusal occurs.

"RESTRICTIONS ON RECYCLED OIL

42 USC 6935

"Sec. 3016. (a) IN GENERAL.—Not later than one year after the date of the enactment of this section, the Administrator shall promulgate regulations establishing such performance standards and other requirements as may be necessary to protect the public health and the environment from hazards associated with recycled oil. In developing such regulations, the Administrator shall conduct an analysis of the economic impact of the regulations on the oil recycling industry. The Administrator shall ensure that such regulations do not discourage the recovery or recycling of used oil, consistent with the protection of human health and the environment.

"(b) IDENTIFICATION OR LISTING OF USED OIL AS HAZARDOUS WASTE.—Not later than 12 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984 the Administrator shall propose whether to list or identify used automobile and truck crankcase oil as hazardous waste under section 3001. Not later than 24 months after such date of enactment, the Administrator shall make a final determination whether to list or identify used automobile and truck crankcase oil and other used oil as hazardous wastes under section 3001.

"(c) USED OIL WHICH IS RECYCLED.—

"(1) With respect to generators and transporters of used oil identified or listed as a hazardous waste under section 3001, the standards promulgated under section 3001(d), 3003, and 3005 of this subtitle shall not apply to such used oil if such used oil is recycled.

"(2)(A) In the case of used oil which is exempt under paragraph (1), not later than 24 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall promulgate such standards under this subsection regarding the generation and transportation of used oil which is recycled as may be necessary to protect human health and the environment. In promulgating such regulations with respect to generators, the Administrator shall take into account the effect of such regulations on environmentally acceptable types of used oil recycling and the effect of such regulations on small quantity generators and generators which are small businesses (as defined by the Administrator).

"(B) The regulations promulgated under this subsection shall provide that no generator of used oil which is exempt under paragraph (1) from the standards promulgated under section 3001(d), 3003, and 3005 shall be subject to any manifest requirement or any associated recordkeeping and reporting requirement with respect to such used oil if such generator—

"(i) either—

"(I) enters into an agreement or other arrangement (including an agreement or arrangement with an independent transporter or with an agent of the recycler) for delivery of such used oil to a recycling facility which has a permit under section 3005(c) (or for which a valid permit is deemed to be in effect under subsection (d)), or

"(II) recycles such used oil at one or more facilities of the generator which has such a permit under section 3005 of this subtitle (or for which a valid permit is deemed to have been issued under subsection (d) of this section);

"(ii) such used oil is not mixed by the generator with other types of hazardous wastes; and

"(iii) the generator maintains such records relating to such used oil, including records of agreements or other arrangements for delivery of such used oil to any recycling facility referred to in clause (i)(I), as the Administrator deems necessary to protect human health and the environment.

"(3) The regulations under this subsection regarding the transportation of used oil which is exempt from the standards promulgated under sections 3001(d), 3002, and 3003 under paragraph (1) shall require the transporters of such used oil to deliver such used oil to a facility which has a valid permit under section 3005 of this subtitle or which is deemed to have a valid permit under subsection (d) of this section. The Administrator shall also establish other standards for such transporters as may be necessary to protect human health and the environment.

"(d) PERMITS.—

"(1) The owner or operator of a facility which recycles used oil which is exempt under subsection (c)(1), shall be deemed to have a permit under this subsection for all such treatment or recycling (and any associated tank or container storage) if such owner and operator comply with standards promulgated by the Administrator under section 3004; except that the Administrator may require such owners and operators to obtain an individual permit under section 3005(c) if he determines that an individual permit is necessary to protect human health and the environment.

"(2) Notwithstanding any other provision of law, any generator who recycles used oil which is exempt under subsection (c)(1) shall not be required to obtain a permit under section 3005(c) with respect to such used oil until the Administrator has promulgated standards under section 3004 regarding the recycling of such used oil.

"EXPANSION DURING INTERIM STATUS

42 USC 6936

"Sec. 3016. (a) WASTE PILES.—The owner or operator of a waste pile qualifying for the authorization to operate under section 3005(e) shall be subject to the same requirements for liners and leachate collection systems or equivalent protection provided in regulations promulgated by the Administrator under section 3004 before October 1, 1982, or revised under section 3004(o) (relating to minimum technological requirements), for new facilities receiving individual permits under subsection (c) of section 3005, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the waste management area identified in the permit application submitted under section 3005, and with respect to waste received beginning 6 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984.

"(b) LANDFILLS AND SURFACE IMPOUNDMENTS.—

"(1) The owner or operator of a landfill or surface impoundment qualifying for the authorization to operate under section 3005(e) shall be subject to the requirements of section 3004(o) relating to minimum technological requirements, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the waste management area identified in the permit application submitted under this section, and with respect to waste received beginning 6 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984.

"(2) The owner or operator of each unit referred to in paragraph (1) shall notify the Administrator (or the State, if appropriate) at least 60 days prior to receiving waste. The Administrator (or the State) shall require the filing, within 6 months of receipt of such notice, of an application for a final determination regarding the issuance of a permit for each facility submitting such notice.

"(3) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of this section and in good faith compliance with the Administrator's regulations and guidance documents governing liners and leachate collection systems, no liner or leachate collection system which is different from that which was so installed pursuant to this section shall be required for such unit by the Administrator when issuing the first permit under section 3005 to such facility, except that the Administrator shall not be precluded from requiring installation of a new liner when the Administrator has reason to believe that any liner installed pursuant to the requirements of this section is leaking. The Administrator may, under section 3004, amend the requirements for liners and leachate collection systems required under this section as may be necessary to provide additional protection for human health and the environment.

"INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE FACILITIES

42 USC 6937

"Sec. 3016. (a) PROGRAM REQUIREMENT; SUBMITTION; AVAILABILITY; CONTENTS.—Each Federal agency shall undertake a continuing program to compile, publish, and submit to the Administrator (and to the State in the case of sites in States having an authorized hazardous waste program) an inventory of each site which the Federal agency owns or operates or has owned or operated at which hazardous waste is stored, treated, or disposed of or has been disposed of at any time. The inventory shall be submitted every 2 years beginning January 31, 1986. Such inventory shall be available to the public as provided in section 3007(b). Information previously submitted by a Federal agency under section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or under section 3005 or 3010 of this Act, or under this section need not be resubmitted except that the agency shall update any previous submission to reflect the latest available data and information. The inventory shall include each of the following:

"(1) A description of the location of each site at which any such treatment, storage, or disposal has taken place before the date on which permits are required under section 3005 for such storage, treatment, or disposal, and where hazardous waste has been disposed, a description of hydrogeology of the site and the location of withdrawal wells and surface water within one mile of the site.

"(2) Such information relating to the amount, nature, and toxicity of the hazardous waste in each site as may be necessary to determine the extent of any health hazard which may be associated with any site.

"(3) Information on the known nature and extent of environmental contamination at each site, including a description of the monitoring data obtained.

"(4) Information concerning the current status of the site, including information respecting whether or not hazardous waste is currently being treated, stored, or disposed of at such site (and if not, the date on which such activity ceased) and information respecting the nature of any other activity currently carried out at such site.

"(5) A list of sites at which hazardous waste has been disposed and environmental monitoring data has not been obtained, and the reasons for the lack of monitoring data at each site.

"(6) A description of response actions undertaken or contemplated at contaminated sites.

"(7) An identification of the types of technique of waste treatment, storage, or disposal which have been used at each site.

"(8) The name and address and responsible Federal agency for each site, determined as of the date of preparation of the inventory.

"(b) ENVIRONMENTAL PROTECTION AGENCY PROGRAM.—If the Administrator determines that any Federal agency under subsection (a) is not adequately providing information respecting the sites referred to in subsection (a), the Administrator shall notify the chief official of such agency. If within 90 days following such notification, the Federal agency has not undertaken a program to adequately provide such information, the Administrator shall carry out the inventory program for such agency.

"EXPORT OF HAZARDOUS WASTE

42 USC 6938

Sec. 3017. (a) IN GENERAL.—Beginning 24 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, no person shall export any hazardous waste identified or listed under this subtitle unless

(1)(A) such person has provided the notification required in subsection (c) of this section,

(B) the government of the receiving country has consented to accept such hazardous waste,

"(C) a copy of the receiving country's written consent is attached to the manifest accompanying each waste shipment, and

"(D) the shipment conforms with the terms of the consent of the government of the receiving country required pursuant to subsection (a), or

"(2) the United States and the government of the receiving country have entered into an agreement as provided for in subsection (f) and the shipment conforms with the terms of such agreement.

"(b) REGULATIONS.—Not later than 12 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, the Administrator shall promulgate the regulations necessary to implement this section. Such regulations shall become effective 180 days after promulgation.

"(c) NOTIFICATION.—Any person who intends to export a hazardous waste identified or listed under this subtitle beginning 12 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, shall, before such hazardous waste is scheduled to leave the United States, provide notification to the Administrator. Such notification shall contain the following information:

"(1) the name and address of the exporter;

"(2) the types and estimated quantities of hazardous waste to be exported;

"(3) the estimated frequency or rate at which such waste is to be exported; and the period of time over which such waste is to be exported;

"(4) the ports of entry;

"(5) a description of the manner in which such hazardous waste will be transported to and treated, stored, or disposed in the receiving country; and

"(6) the name and address of the ultimate treatment, storage or disposal facility.

"(d) PROCEDURES FOR REQUESTING CONSENT OF THE RECEIVING COUNTRY.—Within 30 days of the Administrator's receipt of a complete notification under this section, the Secretary of State, acting on behalf of the Administrator, shall—

"(1) forward a copy of the notification to the government of the receiving country;

"(2) advise the government that United States law prohibits the export of hazardous waste unless the receiving country consents to accept the hazardous waste;

"(3) request the government to provide the Secretary with a written consent or objection to the terms of the notification; and

"(4) forward to the government of the receiving country a description of the Federal regulations which would apply to the treatment, storage, and disposal of the hazardous waste in the United States.

"(e) CONVEYANCE OF WRITTEN CONSENT TO EXPORTER.—Within 30 days of receipt by the Secretary of State of the receiving country's written consent or objection (or any subsequent communication withdrawing a prior consent or objection), the Administrator shall forward such a consent, objection, or other communication to the exporter.

"(f) INTERNATIONAL AGREEMENTS.—Where there exists an international agreement between the United States and the government of the receiving country establishing notice, export, and enforcement procedures for the transportation, treatment, storage, and disposal of hazardous wastes, only the requirements of subsections (a)(2) and (g) shall apply.

"(g) REPORTS.—After the date of enactment of the Hazardous and Solid Waste Amendments of 1984, any person who exports any hazardous waste identified or listed under section 3001 of this subtitle shall file with the Administrator on later than March 1 of each year, a report summarizing the types, quantities, frequency, and ultimate destination of all such hazardous waste exported during the previous calendar year.

"(h) OTHER STANDARDS.—Nothing in this section shall preclude the Administrator from establishing other standards for the export of hazardous wastes under section 3002 or section 3003 of this subtitle.

"DOMESTIC SEWAGE

42 USC 6939

"Sec. 3018. (a) REPORT.—The Administrator shall, not later than 18 months after the date of enactment of the Hazardous and Solid Waste Amendments of 1984, submit a report to the Congress concerning those substances identified or listed under section 3001 which are not regulated under this subtitle by reason of the exclusion for mixtures of domestic sewage and other wastes that pass through a sewer system to a publicly owned treatment works. Such report shall include the types, size and number of generators which dispose of such substances in this manner, the types and quantities disposed of in this manner, and the identification of significant generators, wastes, and waste constituents not regulated under existing Federal law or regulated in a manner sufficient to protect human health and the environment.

"(b) REVISIONS OF REGULATIONS.—Within 18 months after submitting the report specified in subsection (a), the Administrator shall revise existing regulations and promulgate such additional regulations pursuant to this subtitle (or any other authority of the Administrator, including section 307 of the Federal Water Pollution Control Act) as

are necessary to assure that substances identified or listed under section 3001 which pass through a sewer system to a publicly owned treatment works are adequately controlled to protect human health and the environment.

"(c) REPORT ON WASTEWATER LAGOONS.—The Administrator shall, within 36 months after the date of the enactment of the Hazardous and Solid Waste Amendments of 1984, submit a report to Congress concerning wastewater lagoons at publicly owned treatment works and their effect on groundwater quality. Such report shall include—

"(1) the number and size of such lagoons;

"(2) the types and quantities of waste contained in such lagoons;

"(3) the extent to which such waste has been or may be released from such lagoons and contaminate ground water; and

"(4) available alternatives for preventing or controlling such releases.

The Administrator may utilize the authority of sections 3007 and 3013 for the purpose of completing such report.

"(d) APPLICATION OF SECTION 3010 AND SECTION 3007.—The provisions of sections 3007 and 3010 shall apply to solid or dissolved materials in domestic sewage to the same extent and in the same manner as such provisions apply to hazardous waste.

"EXPOSURE INFORMATION AND HEALTH ASSESSMENTS

42 USC 6939a

"Sec. 3019. (a) EXPOSURE INFORMATION.—Beginning on the date nine months after the enactment of the Hazardous and Solid Waste Amendments of 1984, each application for a final determination regarding a permit under section 3005(c) for a landfill or surface impoundment shall be accompanied by information reasonably ascertainable by the owner or operator on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, such information must address:

"(1) reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit;

"(2) the potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under paragraph (1); and

"(3) the potential magnitude and nature of the human exposure resulting from such releases.

The owner or operator of a landfill or surface impoundment for which an application for such a final determination under section 3005(c) has been submitted prior to the date of enactment of the Hazardous and Solid Waste Amendments of 1984 shall submit the information required by this subsection to the Administrator for the State, in the case of a State with an authorized program) no later than the date 9 months after such date of enactment.

"(b) HEALTH ASSESSMENTS.—

"(1) The Administrator for the State, in the case of a State with an authorized program) shall make the information required by subsection (a), together with other relevant information, available to the Agency for Toxic Substances and Disease Registry established by section 104(i) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980.

"(2) Whenever in the judgment of the Administrator, or the State (in the case of a State with an authorized program), a landfill or a surface impoundment poses a substantial potential risk to human health, due to the existence of releases of

hazardous constituents, the magnitude of contamination with hazardous constituents which may be the result of a release, or the magnitude of the population exposed to such release or contamination, the Administrator or the State (with the concurrence of the Administrator) may request the Administrator of the Agency for Toxic Substances and Disease Registry to conduct a health assessment in connection with such facility and take other appropriate action with respect to such risks as authorized by section 104(b) and (i) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980. If funds are provided in connection with such request the Administrator of such Agency shall conduct such health assessment.

"(c) MEMBERS OF THE PUBLIC.—Any member of the public may submit evidence of releases of or exposure to hazardous constituents from such a facility, or as to the risks or health effects associated with such releases or exposure, to the Administrator of the Agency for Toxic Substances and Disease Registry, the Administrator, or the State (in the case of a State with an authorized program).

"(d) PRIORITY.—In determining the order in which to conduct health assessments under this subsection, the Administrator of the Agency for Toxic Substances and Disease Registry shall give priority to those facilities or sites at which there is documented evidence of release of hazardous constituents, at which the potential risk to human health appears highest, and for which in the judgment of the Administrator of such Agency existing health assessment data is inadequate to assess the potential risk to human health as provided in subsection (f).

"(e) PERIODIC REPORTS.—The Administrator of such Agency shall issue periodic reports which include the results of all the assessments carried out under this section. Such assessments or other activities shall be reported after appropriate peer review.

"(f) DEFINITION.—For the purposes of this section, the term 'health assessments' shall include preliminary assessments of the potential risk to human health posed by individual sites and facilities subject to this section, based on such factors as the nature and extent of contamination, the existence of potential for pathways of human exposure (including ground or surface water contamination, air emissions, and food chain contamination), the size and potential susceptibility of the community within the likely pathways of exposure, the comparison of expected human exposure levels to the short-term and long-term health effects associated with identified contaminants and any available recommended exposure or tolerance limits for such contaminants, and the comparison of existing morbidity and mortality data on diseases that may be associated with the observed levels of exposure. The assessment shall include an evaluation of the risks to the potentially affected population from all sources of such contaminants, including known point or nonpoint sources other than the site or facility in question. A purpose of such preliminary assessments shall be to help determine whether full-scale health or epidemiological studies and medical evaluations of exposed populations shall be undertaken.

"(g) COST RECOVERY.—In any case in which a health assessment performed under this section discloses the exposure of a population to the release of a hazardous substance, the costs of such health assessment may be recovered as a cost of response under section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 from persons causing or contributing to such release of such hazardous substance or, in the case of multiple releases contributing to such exposure, to all such releases."

"INTERIM CONTROL OF HAZARDOUS WASTE INJECTION

"Sec. 3020. (a) UNDERGROUND SOURCE OF DRINKING WATER.—No hazardous waste may be disposed of by underground injection—

"(1) into a formation which contains (within one-quarter mile of the well used for such underground injection) an underground source of drinking water; or

"(2) above such a formation.

The prohibitions established under this section shall take effect 6 months after the enactment of the Hazardous and Solid Waste Amendments of 1984 except in the case of any State in which identical or more stringent prohibitions are in effect before such date under the Safe Drinking Water Act.

"(b) ACTIONS UNDER CERCLA.—Subsection (a) shall not apply to the injection of contaminated ground water into the aquifer from which it was withdrawn, if—

"(1) such injection is—

"(A) a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, or

"(B) part of corrective action required under this title

intended to clean up such contamination;

"(2) such contaminated ground water is treated to substantially reduce hazardous constituents prior to such injection; and

"(3) such response action or corrective action will, upon completion, be sufficient to protect human health and the environment.

"(c) ENFORCEMENT.—In addition to enforcement under the provisions of this Act, the prohibitions established under paragraphs (1) and (2) of subsection (a) shall be enforceable under the Safe Drinking Water Act in any State—

"(1) which has adopted identical or more stringent prohibitions under part C of the Safe Drinking Water Act and which has assumed primary enforcement responsibility under that Act for enforcement of such prohibitions; or

"(2) in which the Administrator has adopted identical or more stringent prohibitions under the Safe Drinking Water Act and is exercising primary enforcement responsibility under that Act for enforcement of such prohibitions.

"(d) The terms 'primary enforcement responsibility', 'underground source of drinking water', 'formation' and 'well' have the same meanings as provided in regulations of the Administrator under the Safe Drinking Water Act. The term 'Safe Drinking Water Act' means title XIV of the Public Health Service Act."

"SUBTITLE D—STATE OR REGIONAL SOLID WASTE PLANS

"OBJECTIVES OF SUBTITLE

42 USC 6941

"Sec. 4001. The objectives of this subtitle are to assist in developing and encouraging methods for the disposal of solid waste which are environmentally sound and which maximize the utilization of valuable resources including energy and materials which are recoverable from solid waste and to encourage resource conservation. Such objectives are to be accomplished through Federal technical and financial assistance to States or regional authorities for comprehensive planning pursuant to federal guidelines designed to foster cooperation among Federal, State, and local governments and private industry. In developing such comprehensive plans, it is the intention of this Act that in determining the size of the waste-to-energy facility, adequate provision shall be given

APPENDIX C

EXCERPTS FROM 40CFR ON HAZARDOUS WASTES DISPOSAL

C. EXCERPTS FROM 40CFR ON HAZARDOUS WASTE DISPOSAL

Appendix C provides excerpts from the Code of Federal Regulations, Title 40 - Protection of Environment (40CFR) pertaining to the disposal of hazardous wastes in landfills. The purpose of Appendix C is to show the wording of the pertinent sections promulgated by the U.S. Environmental Protection Agency (EPA) and which regulate the disposal of hazardous wastes in landfills. Included here are Part 261.32 showing a table identifying hazardous wastes, and Part 264 Sections:

A - General,
D - Contingency Plan and Emergency Procedures,
F - Releases from Solid Waste Management Units,
G - Closure and Post-Closure,
H - Financial Closure, and
N - Landfills.

ENVIRONMENTAL PROTECTION AGENCY REGULATIONS FOR IDENTIFYING HAZARDOUS WASTE

(40 CFR 261; 45 FR 33119, May 19, 1980, Effective November 19, 1980; Amended as shown in Code of Federal Regulations, Volume 40, Revised as of July 1, 1986; Amended by 51 FR 25470, July 14, 1986; 51 FR 25701, July 16, 1986; 51 FR 25891, July 17, 1986; Corrected by 51 FR 27038, July 29, 1986; Corrected and amended by 51 FR 28297, August 6, 1986; Amended by 51 FR 28682, August 8, 1986; 51 FR 29219, 29222, August 15, 1986; 51 FR 32460, September 12, 1986; Corrected by 51 FR 33612, September 22, 1986; 51 FR 37021, October 17, 1986; 51 FR 37725, 37728, October 24, 1986; 51 FR 40636, November 7, 1986; 51 FR 41308, 41310, 41313, 41327, November 14, 1986; 51 FR 41483, 41486, 41489, 41498, November 17, 1986; 52 FR 2522, January 23, 1987; 52 FR 11821, April 13, 1987; 52 FR 17043, May 8, 1987; 52 FR 21306, June 5, 1987; Corrected by 52 FR 26012, July 10, 1987; Amended by 52 FR 28698, August 3, 1987; 52 FR 29848, 29850, August 12, 1987; 52 FR 4850, February 18, 1988; 53 FR 7913, March 11, 1988; Corrected by 53 FR 13382, April 22, 1988; 53 FR 15170, April 27, 1988; Amended by 53 FR 20117, June 2, 1988)

[*Editor's note:* New Parts 124, 270, and 271, EPA's permit program regulations, are published in Environment Reporter — Federal Regulations — 1, at 101:0801, and Federal Regulations — 4 at 161:2301 and 161:2351, respectively.]

[*Editor's note:* EPA January 4, 1985, issued amendments clarifying the agency's jurisdiction over hazardous waste recycling activities (50 FR 661).

EPA said the amendments will become effective July 5, 1985, with the exception of 261.1(b) and 261.2(e). These two sections became effective on December 20, 1984, since the regulatory community did not need any additional time to comply, according to the agency.]

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

Subpart A—General

Sec.
261.1 Purpose and scope.
261.2 Definition of solid waste.
261.3 Definition of hazardous waste.
261.4 Exclusions.
261.5 Special requirements for hazardous waste produced by small quantity generators.
261.6 Special requirements for hazardous waste which is used, re-used, recycled or reclaimed.
261.7 Residues of hazardous waste in empty containers.

Subpart B—Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Wastes

261.10 Criteria for identifying the characteristics of hazardous wastes.
261.11 Criteria for listing hazardous waste.

Subpart C—Characteristics of Hazardous Waste

261.20 General.
261.21 Characteristic of ignitability.
261.22 Characteristic of corrosivity.
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Authority: Secs. 1006, 2002(a), 3001 and 3002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6921 and 6922).

[Amended by 51 FR 28682, August 8, 1986; 53 FR 13382, April 22, 1988; 53 FR 20117, June 2, 1988]

Subpart A—General

§261.1 Purpose and scope.

(a) This part identifies those solid wastes which are subject to regulation as hazardous wastes under Parts 262 through 265 and Parts 268, 270, 271, and 124 of this chapter and which are subject to the notification requirements of section 3010 of RCRA. In this part:

[261.1(a) introductory text amended by 40636, November 7, 1986]

(1) Subpart A defines the terms "solid waste" and "hazardous waste", identifies those wastes which are excluded from regulation under Parts 262 through 266, 268 and 270 and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

[261.1(a)(1) revised by 51 FR 10174, March 24, 1986; amended by 51 FR 40636, November 7, 1986]

(2) Subpart B sets forth the criteria used by EPA to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) Subpart C identifies characteristics of hazardous waste.

(4) Subpart D lists particular hazardous wastes.

(b)(1) The definition of solid waste contained in this Part applies only to wastes that also are hazardous for purposes of the regulations implementing Subtitle C of RCRA. For example, it does not apply to materials (such as non-hazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled.

(2) This Part identifies only some of the materials which are solid wastes and hazardous wastes under Sections 3007, 3013, and 7003 of RCRA. A material which is not defined as a solid waste in this Part, or is not a hazardous waste identified or listed in this Part, is still a solid waste and a hazardous waste for purposes of these sections if:

(i) In the case of Sections 3007 and 3013, EPA has reason to believe that the material may be a solid waste within the meaning of Section 1004(27) of RCRA and a hazardous waste within the meaning of Section 1004(5) of RCRA; or

(ii) In the case of Section 7003, the statutory elements are established.

[261.1(b) revised and (c) added by 50 FR 661, January 4, 1985]

(c) For the purposes of Sections 261.2 and 261.6:

(1) A "spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(2) "Sludge" has the same meaning used in §260.10 of this Chapter;

(3) A "by-product" is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(4) A material is "reclaimed" if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(5) A material is "used or reused" if it is either:

(i) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials), or

(ii) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(6) "Scrap metal" is bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(7) A material is "recycled" if it is used, reused, or reclaimed.

(8) A material is "accumulated speculatively" if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled, and that—during the calendar year (commencing on January 1)—the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under §261.4(c) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

§261.2 Definition of solid waste.

[261.2 revised by 50 FR 661, January 4, 1985]

(a)(1) *A solid waste* is any discarded material that is not excluded by §261.4(a) or that is not excluded by variance granted under §§260.30 and 260.31.

(2) *A discarded material* is any material which is:

(i) *Abandoned*, as explained in paragraph (b) of this section; or

§261.31 Hazardous waste from nonspecific sources.

The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§260.20 and 260.22 and listed in Appendix XI.

[261.31 introductory text added by 49 FR 37070, September 21, 1984]

Industry and EPA Hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1, 1, 1-trichloroethane, chlorobenzene, 1, 1, 2-trichloro-1, 2, 2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, and 1, 1, 2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I) *
F004	The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F005	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I, T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum	(T)
F007	Spent Cyanide plating bath solutions from electroplating operations.	(R, T)
F008	Plating sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R, T)
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process	(T)
F024	Wastes, including, but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. (This listing does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in §261.32).	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulation containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.).	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. FC20, FC21, FC22, FC23, FC26, and FC27	(T)

* (I, T) should be used to specify mixture containing ignitable and toxic constituents.

[261.31 amended by 46 FR 47833, July 16, 1980, revised by 46 FR 74880, November 12, 1980, 46 FR 4617, January 16, 1981, 46 FR 27476, May 20, 1981, 49 FR 5312, February 10, 1984, 50 FR 881, January 4, 1985, 50 FR 1980, January 14, 1985, 50 FR 53319, December 31, 1985, corrected by 51 FR 2702, January 21, 1986, amended by 51 FR 6541, February 25, 1986]

§261.32 Hazardous waste from specific sources.

The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under §§260.20 and 260.22 and listed in Appendix IX.

[261.32 introductory text added by 49 FR 37070, September 21, 1984]

[Sec. 261.32]

Industry and EPA hazardous waste No	Hazardous waste	Hazard code
Wood preservation K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol	(T)
Inorganic pigments		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated)	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments	(T)
K008	Oven residue from the production of chrome oxide green pigments	(T)
Organic chemicals		
K009	Distillation bottoms from the production of acetaldehyde from ethylene	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R,T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R,T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K083	Distillation light ends from the production of phthalic anhydride from ortho-xylene	(T)
K084	Distillation bottoms from the production of phthalic anhydride from ortho-xylene	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tails from the production of methyl ethyl pyridines	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production	(R,T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene	(T)
K083	Distillation bottoms from aniline production	(T)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes	(T)

[K111 through K116 added by 50 FR 42942, October 23, 1985]

K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)

[K117, 118 and 136 added by 51 FR 5330, February 13, 1986]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Inorganic chemicals		
K071	Brine purification muds from the mercury cell process in chlorine production where separately prepurified brine is not used	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production	(T)
Pesticides		
K031	By-product salts generated in the production of MSMA and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane	(T)
K098	Wastewater treatment sludges generated in the production of products	(T)
K099	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K036	Wastewater treatment sludges from the production of disulfoton	(T)
K037	Wastewater from the washing and stripping of phorate production	(T)
K038	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)
K040	Wastewater treatment sludge from the production of phorate	(T)
K041	Wastewater treatment sludge from the production of toxaphene	(T)
K098	Untreated process wastewater from the production of toxaphene	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D	(T)
K099	Untreated wastewater from the production of 2,4-D	(T)

[K123 through 126 added by 51 FR 37728, October 24, 1986]

K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	(T)
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts	(C, T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts	(T)
Explosives		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
K045	Spent carbon from the treatment of wastewater containing explosives	(R)
K046	Wastewater treatment sludges from the manufacturing formulation and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations	(R)
Petroleum refining		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
K049	Slop oil emulsion solids from the petroleum refining industry	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry	(T)
K051	API separator sludge from the petroleum refining industry	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry	(T)
Iron and steel		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities with the iron and steel industry (SIC Codes 331 and 332).	(C, T)
Secondary lead		
K069	Emission control dust/sludge from secondary lead smelting	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary pharmaceuticals		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
Ink formulation. K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations	(T)
K087	Decanter tank tar sludge from coking operations	(T)

[261.32 amended by 45 FR 47833, July 16, 1980; 45 FR 72039, October 30, 1980; revised by 45 FR 74980, November 12, 1980; 46 FR 4617, January 16, 1981; 46 FR 27476, May 20, 1981; 50 FR 42942, October 23, 1985; 51 FR 5330, February 13, 1986, 51 FR 19322, May 28, 1986, corrected by 51 FR 33612, September 22, 1986; amended by 51 FR 37728, October 24, 1986, 52 FR 28698, August 3, 1987]

[Sec. 261.32]

ENVIRONMENTAL PROTECTION AGENCY REGULATIONS FOR OWNERS AND OPERATORS OF PERMITTED HAZARDOUS WASTE FACILITIES

(40 CFR 264; 45 FR 33221, May 19, 1980, Effective November 19, 1980; Revised as shown in Volume 40, Code of Federal Regulations, July 1, 1985; Amended by 51 FR 16443, May 2, 1986, Effective October 29, 1986; 51 FR 25354, July 11, 1986, Effective September 9, 1986; 51 FR 25470, July 14, 1986; Effective January 12, 1987; 51 FR 40636, November 7, 1986; Corrected by 52 FR 21014, June 4, 1987; Amended by 52 FR 25787, July 8, 1987; 52 FR 25946, July 9, 1987; 52 FR 44320, November 18, 1987; 52 FR 45797, December 1, 1987; 52 FR 46936, December 10, 1987)

[*Editor's note:* New Parts 124, 270 and 271, EPA's permit program regulations, are published in Environment Reporter — Federal Regulations — 1, at 101:0801 and Federal Regulations — 4 at 161:2301 and 161:2351, respectively.

EPA January 28, 1983 (48 FR 3977) eliminated the March 1, 1983, deadline for generators and treatment, storage, and disposal (TSD) facilities to submit 1982 annual reports. Effective March 1, 1983, EPA will require submission of biennial reports by March 1 of even-numbered years, describing hazardous waste activities during the previous calendar year. Therefore, the next generator and TSD facility report will be due on March 1, 1984, for the 1983 calendar year. Modified forms and instructions reflecting this change in reporting procedures will be published in the near future, the agency said.]

[*Editor's note:* EPA July 14, 1986, amended these regulations applicable to tank systems that manage hazardous wastes (51 FR 25470). The revised rules are effective January 12, 1987, except for small quantity generators who generate between 100 and 1,000 kg/month of hazardous waste and accumulate in quantities exceeding 6,000 kg or accumulate for more than 180 days (or for more than 270 days if the waste is shipped more than 200 miles). These generators must comply with the revised rules beginning March 24, 1987.]

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

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APPENDIX IX GROUND-WATER MONITORING

Authority: 42 U.S.C. 6905, 6912(a), 6924, and 6925.

[Amended by 50 FR 661, January 4, 1985; 50 FR 1999, January 14, 1985; 50 FR 18374, April 30, 1985; 50 FR 28742, July 15, 1985; 51 FR 16443, May 2, 1986; 51 FR 25470, July 14, 1986; 51 FR 28556, August 8, 1986; 51 FR 40636, November 7, 1986; 52 FR 25946, July 9, 1987; 52 FR 44320, November 18, 1987]

Subpart A—General

§264.1 Purpose, scope and applicability.

(a) The purpose of this Part is to establish minimum national standards which define the acceptable management of hazardous waste.

(b) The standards in this part apply to owners and operators of all facilities which treat, store, or dispose of hazardous waste, except as specifically provided otherwise in this part or Part 261 of this chapter.

(c) The requirements of this part apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act only to the extent they are included in a RCRA permit by rule granted to such a person under Part 270 of this chapter.

[Comment: These Part 264 regulations do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.]

(d) The requirements of this part apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act only to the extent they are required by § 144.14 of this chapter.

[Comment: These Part 264 regulations do apply to the above-ground treatment or storage of hazardous waste before it is injected underground.]

(e) The requirements of this part apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the extent they are included in a RCRA permit by rule granted to such a person under Part 270 of this chapter.

(f) The requirements of this part do not apply to a person who treats, stores, or disposes of hazardous waste in a State with a RCRA hazardous waste program authorized under Subpart A of Part 271 of this chapter, or in a State authorized under Subpart B of Part 271 of this chapter for the component or components of Phase II interim authorization which correspond to the person's treatment, storage or disposal processes; except that this part will apply:

(1) As stated in paragraph (d) of this section, if the authorized State RCRA program does not cover disposal of hazardous waste by means of underground injection; and

(2) To a person who treats, stores or disposes of hazardous waste in a State authorized under Subpart A of Part 271 of this chapter, at a facility which was not covered by standards under this part when the State obtained authorization, and for which EPA promulgates standards under this part after the State is authorized. This paragraph will only apply until the State is authorized to permit such facilities under Subpart A of Part 271 of this chapter.

(3) To a person who treats, stores, or disposes of hazardous waste in a State which is authorized under Subpart A or B of Part 271 of this chapter if the State has not been authorized to carry out the requirements and prohibitions applicable to the treatment, storage, or disposal of hazardous waste at his facility which are imposed pursuant to the Hazardous and Solid Waste Amendments of 1984. The requirements and prohibitions that are applicable until a State receives authorization to carry them out include all Federal program requirements identified in § 271.1(j).

[264.1 (f)(3) added by 50 FR 28742, July 15, 1985]

(g) The requirements of this part do not apply to:

(1) The owner or operator of a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under this part by § 261.5 of this chapter;

(2) The owner or operator of a facility managing recyclable materials described in § 261.6(a) (2) and (3) of this chapter (except to the extent that requirements of this part are referred to in Subparts C, D, F, or G of Part 266 of this chapter).

(3) A generator accumulating waste on-site in compliance with § 262.34 of this chapter;

(4) A farmer disposing of waste pesticides from his own use in compliance with § 262.51 of this chapter; or

(5) The owner or operator of a totally enclosed treatment facility, as defined in § 260.10.

(6) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in § 260.10 of this chapter.

(7) [Reserved]

(8)(i) Except as provided in paragraph (g)(6)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(ii) An owner or operator of a facility otherwise regulated by this part must comply with all applicable requirements of Subparts C and D.

(iii) Any person who is covered by paragraph (g)(8)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this part and Parts 122—124 of this chapter for those activities.

(9) A transporter storing manifested shipments of hazardous waste in 40 CFR § 262.30 at a transfer facility for a period of ten days or less.

[The second 264.1(g)(6) was added by 45 FR 86968, December 31, 1980, redesignated as (9) by 46 FR 27476, May 20, 1981]

(10) The addition of absorbent material to waste in a container (as defined in §260.10 of this chapter) or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container, and §§264.17(b), 264.171, and 264.172 are complied with

[264.1(g)(10) added by 47 FR 8306, February 25, 1982]

[Sec. 264.1(g)(10)]

(h) the requirements of this part apply to owners or operators of all facilities which treat, store or dispose of hazardous wastes referred to in Part 268.

[264.1(b) added by 52 FR 21014, June 4, 1987]

§ 264.2 [Reserved]

§ 264.3 Relationship to interim status standards.

A facility owner or operator who has fully complied with the requirements for interim status — as defined in Section 3005(e) of RCRA and regulations under § 270.70 of this Chapter — must comply with the regulations specified in Part 265 of this Chapter in lieu of the regulations in this Part, until final administrative disposition of his permit application is made.

[*Comment:* As stated in Section 3005(a) of RCRA, after the effective date of regulations under that Section, i.e., Parts 270 and 124 of this Chapter, the treatment, storage, or disposal of hazardous waste is prohibited except in accordance with a permit. Section 3005(e) of RCRA provides for the continued operation of an existing facility which meets certain conditions until final administrative disposition of the owner's or operator's permit application is made.]

[264.3 and Comment amended by 48 FR 14293, April 1, 1983]

§264.4 Imminent hazard action.

Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to Section 7003 of RCRA.

§§ 264.5 — 264.9 [Reserved]

Subpart B—General Facility Standards

§ 264.10 Applicability.

[264.10 revised by 46 FR 2847, January 12, 1981]

(a) The regulations in this Subpart apply to owners and operators of all hazardous waste facilities, except as provided in §264.1 and in paragraph (b) of this Section.

(b) Section 264.18(b) applies only to facilities subject to regulation under Subparts I through O and Subpart X of this part.

[264.10(b) amended by 52 FR 46963, December 10, 1987]

§ 264.11 Identification number.

Every facility owner or operator must apply to EPA for an EPA identification number in accordance with the EPA notification procedures (45 FR 12746).

(Approved by the Office of Management and Budget under control number 2050-0024)

[264.11 amended by 50 FR 4513, January, 31, 1985]

§ 264.12 Required notices.

(a) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Regional Administrator in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(b) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record.

(c) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of this part and Part 270 of this chapter.

[264.12 amended by 48 FR 14293, April 1, 1983]

[Comment: An owner's or operator's failure to notify the new owner or operator of the requirements of this Part in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.]

[Approved by the Office of Management and Budget under control number 2050-0012]

[264.12 amended by 50 FR 4513, January 31, 1985]

§264.13 General waste analysis.

(a)[1] Before an owner or operator treats, stores, or disposes of any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of this part and Part 268 of this chapter or with the conditions of a permit issued under Part 270 and Part 124 of this chapter.

[264.13(a)(1) amended by 51 FR 40636, November 7, 1986; corrected by 52 FR 21014, June 4, 1987]

(2) The analysis may include data developed under Part 261 of this chapter, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

[*Comment:* For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part or all of the information required by paragraph (a)(1) of this section. If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(ii) For off-site facilities, when the results of the inspection required in paragraph (a)(4) of this Section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to

Subpart D—Contingency Plan and Emergency Procedures

§ 264.50 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 264.1 provides otherwise.

§ 264.51 Purpose and implementation of contingency plan.

(a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

(Approved by the Office of Management and Budget under control number 2050-0011)

§ 264.52 Content of contingency plan.

(a) The contingency plan must describe the actions facility personnel must take to comply with §§ 264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with Part 112 of this chapter, or Part 1510 of Chapter V, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part.

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to § 264.37.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see § 264.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. *For new facilities,* this information must be supplied to the Regional Administrator at the time of certification, rather than at the time of permit application.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

(Approved by the Office of Management and Budget under control number 2050-0011)

§ 264.53 Copies of contingency plan.

A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

[*Comment:* The contingency plan must be submitted to the Regional Administrator with Part B of the permit application under Part 270, of this chapter and, after modification or approval, will become a condition of any permit issued.]

(Approved by the Office of Management and Budget under control number 2050-0011)

§ 264.54 Amendment of contingency plan.

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) The facility permit is revised;

(b) The plan fails in an emergency;

(c) The facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

[*Comment:* A change in the lists of facility emergency coordinators or equipment in the contingency plan constitutes a minor modification to the facility permit to which the plan is a condition.]

(Approved by the Office of Management and Budget under control number 2050-0011)

§ 264.55 Emergency coordinator.

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[*Comment:* The emergency coordinator's responsibilities are more fully spelled out in § 264.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.]

§ 264.56 Emergency procedures.

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordina-

tor must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under Part 1510 of this Title) or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident (e.g., release, fire);

(iv) Name and quantity of material(s) involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

(*Comment:* Unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Parts 262, 263, and 264 of this Chapter.)

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must notify the Regional Administrator, and appropriate State and local authorities, that the facility is in compliance with paragraph (h) of this section before operations are resumed in the affected area(s) of the facility.

(j) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident (e.g., fire, explosion);

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

(Approved by the Office of Management and Budget under control number 2050-0012)

Subpart E—Manifest System, Recordkeeping, and Reporting

§ 264.70 Applicability.

The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as § 264.1 provides otherwise. Sections 264.71, 264.72, and 264.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources. Section 264.73(b) only applies to permittees who treat, store, or dispose of hazardous wastes on-site where such wastes were generated.

[264.70 revised by 50 FR 28742, July 15, 1985]

§ 264.71 Use of manifest system.

(a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(2) Note any significant discrepancies in the manifest (as defined in § 264.72(a)) on each copy of the manifest;

(*Comment:* The Agency does not intend that the owner or operator of a facility whose procedures under § 264.13(c) include waste analysis must perform that analysis before signing the manifest and giving it to the transporter. Section 264.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.)

(3) Immediately give the transporter at least one copy of the signed manifest;

(4) Within 30 days after the delivery, send a copy of the manifest to the generator; and

(5) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification

ment and Budget under control number 2050-0012)

[264.76 amended by 50 FR 4513, January 31, 1985]

§ 264.77 Additional reports.

[264.77 revised by 46 FR 2847, January 12, 1981]

In addition to submitting the biennial reports and unmanifested waste reports described in §§ 264.75 and 264.76, the owner or operator must also report to the Regional Administrator:

[264.77 introductory text amended by 48 FR 3981, January 28, 1983]

(a) Releases, fires, and explosions as specified in § 264.56(j);

(b) Facility closures specified in §264.115; and

[Former 264.77(c) amended and redesignated as (b) by 47 FR 32349, July 26, 1982]

(c) As otherwise required by Subparts F and K—N.

[The new 264.77(c) added by 47 FR 32349, July 26, 1982, effective January 26, 1983]

§§264.78–264.89 [Reserved]

Subpart F — Releases From Solid Waste Management Units

[Subpart F added by 47 FR 32349, July 26, 1982, effective January 26, 1983; heading revised by 50 FR 28742, July 15, 1985]

§264.90 Applicability.

(a)(1) Except as provided in paragraph (b) of this section, the regulations in this subpart apply to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator must satisfy the requirements identified in paragraph (a)(2) of this section for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units.

(2) All solid waste management units must comply with the requirements in §264.101. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a "regulated unit") must comply with the requirements of §§264.91-264.100 in lieu of §264.101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of §254.101 apply to regulated units.

[264.90(a) and (b) revised by 50 FR 28742, July 15, 1985]

(b) The owner or operator's regulated unit or units are not subject to regulation for releases into the uppermost aquifer under this subpart if:

(1) The owner or operator is exempted under §264.1; or

(2) He operates a unit which the Regional Administrator finds:

(i) Is an engineered structure,

(ii) Does not receive or contain liquid waste or waste containing free liquids,

(iii) Is designed and operated to exclude liquids, precipitation, and other run-on and run-off,

(iv) Has both inner and outer layers of containment enclosing the waste,

(v) Has a leak detection system built into each containment layer,

(vi) The owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods, and

(vii) To a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the the post-closure care period

(3) The Regional Administrator finds, pursuant to §264.280(d), that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of §264.278 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this subpart during the post-closure care period; or

(4) The Regional Administrator finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the post-closure care period specified under §264.117. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(5) He designs and operates a pile in compliance with §264.250(c).

(c) The regulations under this subpart apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the regulations in this subpart:

(1) Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(2) Apply during the post-closure care period under § 264.117 if the owner or operator is conducting a detection monitoring program under § 264.98; or

(3) Apply during the compliance period under § 264.96 if the owner or operator is conducting a compliance monitoring program under § 264.99 or a corrective action program under § 264.100.

(d) Regulations in this subpart may apply to miscellaneous units when necessary to comply with §§ 264.601 through 264.603.

[264.90 (d) added by 52 FR 46963, December 10, 1987]

§ 264.91 Required programs.

(a) Owners and operators subject to this subpart must conduct a monitoring and response program as follows:

(1) Whenever hazardous constituents under § 264.93 from a regulated unit are detected at the compliance point under § 264.95, the owner or operator must institute a compliance monitoring program under § 264.99;

[Sec. 264.91(a)(1)]

(2) Whenever the ground-water protection standard under § 264.92 is exceeded, the owner or operator must institute a corrective action program under § 264.100;

(3) Whenever hazardous constituents under § 264.93 from a regulated unit exceed concentration limits under § 264.94 in ground water between the compliance point under § 264.95 and the downgradient facility property boundary, the owner or operator must institute a corrective action program under § 264.100; or

(4) In all other cases, the owner or operator must institute a detection monitoring program under § 264.98.

(b) The Regional Administrator will specify in the facility permit the specific elements of the monitoring and response program. The Regional Administrator may include one or more of the programs identified in paragraph (a) of this section in the facility permit as may be necessary to protect human health and the environment and will specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the Regional Administrator will consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken.

§ 264.92 Ground-water protection standard.

The owner or operator must comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under § 264.93 entering the ground water from a regulated unit do not exceed the concentration limits under § 264.94 in the uppermost aquifer underlying the waste management area beyond the point of compliance under § 264.95 during the compliance period under § 264.96. The Regional Administrator will establish this ground-water protection standard in the facility permit when hazardous constituents have entered the ground water from a regulated unit.

§ 264.93 Hazardous constituents.

(a) The Regional Administrator will specify in the facility permit the hazardous constituents to which the ground-water protection standard of § 264.92 applies. Hazardous constituents are constituents identified in Appendix VIII of Part 261 of this chapter that have been detected in ground water in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Regional Administrator has excluded them under paragraph (b) of this section.

(b) The Regional Administrator will exclude an Appendix VIII constituent from the list of hazardous constituents specified in the facility permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the Regional Administrator will consider the following:

(1) Potential adverse effects on ground-water quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of ground water and the direction of ground-water flow;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The current and future uses of ground water in the area;

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of ground water, and the direction of ground-water flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality;

(viii) The potential for health risks caused by human exposure to waste constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility, the Regional Administrator will consider any identification of underground sources of drinking water and exempted aquifers made under § 144.8 of this chapter.

[264.93(c) amended by 48 FR 14293, Apnl 1, 1983]

§ 264.94 Concentration limits.

(a) The Regional Administrator will specify in the facility permit concentration limits in the ground water for hazardous constituents established under § 264.93. The concentration of a hazardous constituent:

(1) Must not exceed the background level of that constituent in the ground water at the time that limit is specified in the permit; or

(2) For any of the constituents listed in Table 1, must not exceed the respective value given in that Table if the background level of the constituent is below the value given in Table 1; or

(3) Must not exceed an alternate limit established by the Regional Administrator under paragraph (b) of this section.

(b) The Regional Administrator will establish an alternate concentration limit for a hazardous constituent if he finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the Regional Administrator will consider the following factors:

(1) Potential adverse effects on ground-water quality, considering:

TABLE 1—MAXIMUM CONCENTRATION OF CONSTITUENTS FOR GROUND-WATER PROTECTION

Constituent	Maximum concentration [1]
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Selenium	0.01
Silver	0.05
Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano naphthalene)	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenyl)ethane)	0.1
Toxaphene ($C_{10}H_{10}Cl_8$, Technical chlorinated camphene, 67-69 percent chlorine)	0.005
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.01

[1] Milligrams per liter

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of ground water and the direction of ground-water flow;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The current and future uses of ground water in the area;

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface-water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of ground water, and the direction of ground-water flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;

(viii) The potential for health risks caused by human exposure to waste constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility the Regional Administrator will consider any identification of underground sources of drinking water and exempted aquifers made under § 144.8 of this chapter.

[264.94(c) amended by 48 FR 14293, April 1, 1983]

§ 264.95 Point of compliance.

(a) The Regional Administrator will specify in the facility permit the point of compliance at which the ground-water protection standard of § 264.92 applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(b) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(1) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(2) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

§ 264.96 Compliance period.

(a) The Regional Administrator will specify in the facility permit the compliance period during which the ground-water protection standard of § 264.92 applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting, and the closure period.)

[Sec. 264.96(a)]

(b) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of § 264.99.

(c) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in paragraph (a) of this section, the compliance period is extended until the owner or operator can demonstrate that the ground-water protection standard of § 264.92 has not been exceeded for a period of three consecutive years.

§ 264.97 General ground-water monitoring requirements.

The owner or operator must comply with the following requirements for any ground-water monitoring program developed to satisfy § 264.98, § 264.99, or § 264.100:

(a) The ground-water monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground-water samples from the uppermost aquifer that:

(1) Represent the quality of background water that has not been affected by leakage from a regulated unit; and

(2) Represent the quality of ground water passing the point of compliance.

(b) If a facility contains more than one regulated unit, separate ground-water monitoring systems are not required for each regulated unit provided that provisions for sampling the ground water in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the ground water in the uppermost aquifer.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring-well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(d) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of ground-water quality below the waste management area. At a minimum the program must include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

(e) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents in ground-water samples.

(f) The ground-water monitoring program must include a determination of the ground-water surface elevation each time ground water is sampled.

(g) Where appropriate, the ground-water monitoring program must establish background ground-water quality for each of the hazardous constituents or monitoring parameters or constituents specified in the permit.

(1) In the detection monitoring program under § 264.98, background ground-water quality for a monitoring parameter or constituent must be based on data from quarterly sampling of wells upgradient from the waste management area for one year.

(2) In the compliance monitoring program under § 264.99, background ground-water quality for a hazardous constituent must be based on data from upgradient wells that:

(i) Is available before the permit is issued;

(ii) Accounts for measurement errors in sampling and analysis; and

(iii) Accounts, to the extent feasible, for seasonal fluctuations in background ground-water quality if such fluctuations are expected to affect the concentration of the hazardous constituent.

(3) Background quality may be based on sampling of wells that are not upgradient from the waste management area where:

(i) Hydrogeologic conditions do not allow the owner or operator to determine what wells are upgradient; or

(ii) Sampling at other wells will provide an indication of background ground-water quality that is as representative or more representative than that provided by the upgradient wells.

(4) In developing the data base used to determine a background value for each parameter or constituent, the owner or operator must take a minimum of one sample from each well and a minimum of four samples from the entire system used to determine background ground-water quality, each time the system is sampled.

(h) The owner or operator must use the following statistical procedure in determining whether background values or concentration limits have been exceeded:

(1) If, in a detection monitoring program, the level of a constituent at the compliance point is to be compared to the constituent's background value and that background value has a sample coefficient of variation less than 1.00:

(i) The owner or operator must take at least four portions from a sample at each well at the compliance point and determine whether the difference between the mean of the constituent at each well (using all portions taken) and the background value for the constituent is significant at the 0.05 level using the Cochran's Approximation to the Behrens-Fisher Student's t-test as described in Appendix IV of this part. If the test indicates that the difference is significant, the owner or operator must repeat the same procedure (with at least the same number of portions as used in the first test) with a fresh sample from the monitoring well. If this second round of analyses indicates that the difference is significant, the owner or operator must conclude that a statistically significant change has occurred; or

(ii) The owner or operator may use an equivalent statistical procedure for determining whether a statistically significant change has occurred. The Regional Administrator will specify such a procedure in the facility permit if he finds that the alternative procedure reasonably balances the probability of falsely identifying a non-contaminating regulated unit and the

probability of failing to identify a contaminating regulated unit in a manner that is comparable to that of the statistical procedure described in paragraph (h)(1)(i) of this section.

(2) In all other situations in a detection monitoring program and in a compliance monitoring program, the owner or operator must use a statistical procedure providing reasonable confidence that the migration of hazardous constituents from a regulated unit into and through the aquifer will be indicated. The Regional Administrator will specify a statistical procedure in the facility permit that he finds:

(i) Is appropriate for the distribution of the data used to establish background values or concentration limits; and

(ii) Provides a reasonable balance between the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating regulated unit.

(Approved by the Office of Management and Budget under control number 2050-0033) [264.97 amended by 50 FR 4513, January 31, 1985]

§ 264.98 Detection monitoring program.

An owner or operator required to establish a detection monitoring program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in ground water. The Regional Administrator will specify the parameters or constituents to be monitored in the facility permit, after considering the following factors:

(1) The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;

(2) The mobility, stability, and persistance of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;

(3) The detectability of indicator parameters, waste constituents, and reaction products in ground water; and

(4) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the ground-water background.

(b) The owner or operator must install a ground-water monitoring system at the compliance point as specified under § 264.95. The ground-water monitoring system must comply with § 264.97(a)(2), (b), and (c).

(c) The owner or operator must establish a background value for each monitoring parameter or constituent specified in the permit pursuant to paragraph (a) of this section. The permit will specify the background values for each parameter or specify the procedures to be used to calculate the background values.

(1) The owner or operator must comply with § 264.97(g) in developing the data base used to determine background values.

(2) The owner or operator must express background values in a form necessary for the determination of statistically significant increases under § 264.97(h).

(3) In taking samples used in the determination of background values, the owner or operator must use a ground-water monitoring system that complies with § 264.97(a)(1), (b), and (c).

(d) The owner or operator must determine ground-water quality at each monitoring well at the compliance point at least semi-annually during the active life of a regulated unit (including the closure period) and the post-closure care period. The owner or operator must express the ground-water quality at each monitoring well in a form necessary for the determination of statistically significant increases under § 264.97(h).

(e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator must use procedures and methods for sampling and analysis that meet the requirements of § 264.97 (d) and (e).

(g) The owner or operator must determine whether there is a statistically significant increase over background values for any parameter or constituent specified in the permit pursuant to paragraph (a) of this section each time he determines ground-water quality at the compliance point under paragraph (d) of this section.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the ground-water quality at each monitoring well at the compliance point for each parameter or constituent to the background value for that parameter or constituent, according to the statistical procedure specified in the permit under § 264.97(h).

(2) The owner or operator must determine whether there has been a statistically significant increase at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Regional Administrator will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of ground-water samples.

(h) If the owner or operator determines, pursuant to paragraph (g) of this section, that there is a statistically significant increase for parameters or constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he must:

(1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what parameters or constituents have shown statistically significant increases;

(2) Immediately sample the ground water in all monitoring wells and determine whether constituents identified in the list in Appendix IX of Part 264 are present and, if so, at what concentration.

[264.98(h)(2) amended by 52 FR 25946, July 9, 1987]

[Sec. 264.98(h)(2)]

(3) Establish a background value for each constituent that has been found at the compliance point under paragraph (h)(2) of this section, as follows:

[264.98(h)(3) introductory text amended by 52 FR 25946, July 9, 1987]

(i) The owner or operator must comply with § 264.97(g) in developing the data base used to determine background values;

(ii) The owner or operator must express background values in a form necessary for the determination of statistically significant increases under § 264.97(h); and

(iii) In taking samples used in the determination of background values, the owner or operator must use a ground-water monitoring system that complies with § 264.97(a)(1), (b), and (c);

(4) Within 90 days, submit to the Regional Administrator an application for a permit modification to establish a compliance monitoring program meeting the requirements of § 264.99. The application must include the following information:

"(i) An identification of the concentration of each constituent found in the ground water at each monitoring well at the compliance point;

[264.98(h)(4)(i) amended by 52 FR 25946, July 9, 1987]

(ii) Any proposed changes to the ground-water monitoring system at the facility necessary to meet the requirements of § 264.99;

(iii) Any proposed changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of § 264.99;

(iv) For each hazardous constituent found at the compliance point, a proposed concentration limit under § 264.94(a)(1) or (2), or a notice of intent to seek a variance under § 264.94(b); and

(5) Within 180 days, submit to the Regional Administrator:

(i) All data necessary to justify any variance sought under § 264.94(b); and

(ii) An engineering feasibility plan for a corrective action program necessary to meet the requirements of § 264.100, unless:

(A) All hazardous constituents identified under paragraph (h)(2) of this section are listed in Table 1 of § 264.94 and their concentrations do not exceed the respective values given in that Table; or

(B) The owner or operator has sought a variance under § 264.94(b) for every hazardous constituent identified under paragraph (h)(2) of this section.

(i) If the owner or operator determines, pursuant to paragraph (g) of this section, that there is a statistically significant increase of parameters or consituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (h)(4) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (h)(4) of this section unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Regional Administrator in writing within seven days of determining a statistically significant increase at the compliance point that he intends to make a demonstration under this paragraph;

(2) Within 90 days, submit a report to the Regional Administrator which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Regional Administrator an application for a permit modification to make any appropriate changes to the detection monitoring program at the facility; and

(4) Continue to monitor in accordance with the detection monitoring program established under this section.

(j) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

(k) The owner or operator must assure that monitoring and corrective action measures necessary to achieve compliance with the ground-water protection standard under § 264.92 are taken during the term of the permit.

(Approved by the Office of Management and Budget under control number 2050-0033)

§ 264.99 Compliance monitoring program.

An owner or operator required to establish a compliance monitoring program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor the ground water to determine whether regulated units are in compliance with the ground-water protection standard under § 264.92. The Regional Administrator will specify the ground-water protection standard in the facility permit, including:

(1) A list of the hazardous constituents identified under § 264.93;

(2) Concentration limits under § 264.94 for each of those hazardous constituents;

(3) The compliance point under § 264.95; and

(4) The compliance period under § 264.96.

(b) The owner or operator must install a ground-water monitoring system at the compliance point as specified under § 264.95. The ground-water monitoring system must comply with § 264.97(a)(2), (b), and (c).

(c) Where a concentration limit established under paragraph (a)(2) of this section is based on background ground-water quality, the Regional

Administrator will specify the concentration limit in the permit as follows:

(1) If there is a high temporal correlation between upgradient and compliance point concentrations of the hazardous constitutents, the owner or operator may establish the concentration limit through sampling at upgradient wells each time ground water is sampled at the compliance point. The Regional Administrator will specify the procedures used for determining the concentration limit in this manner in the permit. In all other cases, the concentration limit will be the mean of the pooled data on the concentration of the hazardous constituent.

(2) If a hazardous constituent is identified on Table 1 under § 264.94 and the difference between the respective concentration limit in Table 1 and the background value of that constituent under § 264.97(g) is not statistically significant, the owner or operator must use the background value of the constituent as the concentration limit. In determining whether this difference is statistically significant, the owner or operator must use a statistical procedure providing reasonable confidence that a real difference will be indicated. The statistical procedure must:

(i) Be appropriate for the distribution of the data used to establish background values; and

(ii) Provide a reasonable balance between the probability of falsely identifying a significant difference and the probability of failing to identify a significant difference.

(3) The owner or operator must:

(i) Comply with § 264.97(g) in developing the data base used to determine background values;

(ii) Express background values in a form necessary for the determination of statistically significant increases under § 264.97(h); and

(iii) Use a ground-water monitoring system that complies with § 264.97(a)(1), (b), and (c).

(d) The owner or operator must determine the concentration of hazardous constituents in ground water at each monitoring well at the compliance point at least quarterly during the compliance period. The owner or operator must express the concentration at each monitoring well in a form necessary for the determination of statistically significant increases under § 264.97(h).

(e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator must analyze samples from all monitoring wells at the compliance point to determine whether constituents identified in the list in Appendix IX to Part 264 of this chapter are present and, if so, at what concentration. The analysis must be conducted at least annually to determine whether additional Appendix IX constituents are present in the uppermost aquifer. If the owner or operator finds constituents from Appendix IX in the ground water that are not already identified in the permit as monitoring constituents, the owner or operator must report the concentration of these additional constituents to the Regional Administrator within seven days after completion of the analysis.

[264.99(f) amended by 52 FR 25948, July 9, 1987]

(g) The owner or operator must use procedures and methods for sampling and analysis that meet the requirements of § 264.97(d) and (e).

(h) The owner or operator must determine whether there is a statistically significant increase over the concentration limits for any hazardous constituents specified in the permit pursuant to paragraph (a) of this section each time he determines the concentration of hazardous constituents in ground water at the compliance point.

(i) In determining whether a statistically significant increase has occurred, the owner or operator must compare the ground-water quality at each monitoring well at the compliance point for each hazardous constituent to the concentration limit for that constituent according to the statistical procedures specified in the permit under § 264.97(h).

(2) The owner or operator must determine whether there has been a statistically significant increase at each monitoring well at the compliance point, within a reasonable time period after completion of sampling. The Regional Administrator will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of ground-water samples.

(j) If the owner or operator determines, pursuant to paragraph (h) of this section, that the ground-water protection standard is being exceeded at any monitoring well at the point of compliance, he must:

(1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what concentration limits have been exceeded.

(2) Submit to the Regional Administrator an application for a permit modification to establish a corrective action program meeting the requirements of § 264.100 within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Regional Administrator under § 264.98(h)(5). The application must at a minimum include the following information:

(i) A detailed description of corrective actions that will achieve compliance with the ground-water protection standard specified in the permit under paragraph (a) of this section; and

(ii) A plan for a ground-water monitoring program that will demonstrate the effectiveness of the corrective action. Such a ground-water monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

(j) If the owner or operator determines, pursuant to paragraph (h) of this section, that the ground-water protection standard is being exceeded at any monitoring well at the point of compliance, he may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis or evaluation. While the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (j)(2) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (j)(2) of this section unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Regional Administrator in writing within seven days that he intends to make a demonstration under this paragraph;

(2) Within 90 days, submit a report to the Regional Administrator which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Regional Administrator an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and

(4) Continue to monitor in accord with the compliance monitoring program established under this section.

(k) If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

(l) The owner or operator must assure that monitoring and corrective action measures necessary to achieve compliance with the ground-water protection standard under § 264.92 are taken during the term of the permit.

(Approved by the Office of Management and Budget under control number 2050-0033)

[264.99 amended by 50 FR 4513, January 31, 1985]

§ 264.100 Corrective action program.

An owner or operator required to establish a corrective action program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must take corrective action to ensure that regulated units are in compliance with the ground-water protection standard under § 264.92. The Regional Administrator will specify the ground-water protection standard in the facility permit, including:

(1) A list of the hazardous constituents identified under § 264.93;

(2) Concentration limits under § 264.94 for each of those hazardous constituents;

(3) The compliance point under § 264.95; and

(4) The compliance period under § 264.96.

(b) The owner or operator must implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit will specify the specific measures that will be taken.

(c) The owner or operator must begin corrective action within a reasonable time period after the ground-water protection standard is exceeded. The Regional Administrator will specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and such a requirement will operate in lieu of § 264.99(i)(2).

(d) In conjunction with a corrective action program, the owner or operator must establish and implement a ground-water monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under § 264.99 and must be as effective as that program in determining compliance with the ground-water protection standard under § 264.92 and in determining the success of a corrective action program under paragraph (e) of this section, where appropriate.

[264.100(e) introductory text revised, new (1) and (2) added and former (1) and (2) redesignated as (3) and (4) by 52 FR 45797, December 1, 1987]

(e) In addition to the other requirements of this section, the owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under § 264.93 that exceed concentration limits under § 264.94 in groundwater:

(1) Between the compliance point under § 264.95 and the downgradient property boundary; and

(2) Beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Regional Administrator that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis.

(3) Corrective action measures under this paragraph must be initiated and completed within a reasonable period of time considering the extent of contamination.

(4) Corrective action measures under this paragraph may be terminated once the concentration of hazardous constituents under §264.93 is reduced to levels below their respective concentration limits under §264.94.

(f) The owner or operator must continue corrective action measures during the compliance period to the extent necessary to ensure that the ground-water protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he must continue that corrective action for as long as necessary to achieve compliance with the ground-water protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if he can demonstrate, based on data from the ground-water monitoring program under paragraph (d) of this section, that the ground-water protection standard of § 264.92 has not been exceeded for a period of three consecutive years.

(g) The owner or operator must report in writing to the Regional Administrator on the effectiveness of the corrective action program. The owner or operator must submit these reports semi-annually.

(h) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

(Approved by the Office of Management and Budget under control number 2050-0033)

[264.100 amended by 50 FR 4513, January 31, 1985]

[Sec. 264.100(h)]

§264.101 Corrective action for solid waste management units.

[264.101 added by 50 FR 28742, July 15, 1985]

(a) The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

(b) Corrective action will be specified in the permit. The permit will contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action.

(c) The owner or operator must implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Regional Administrator that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such actions. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for such corrective action must be provided.

[264.101(c) added by 52 FR 45797, December 1, 1987]

§§264.102-264.109 [Reserved]

Subpart G — Closure and Post-Closure

[Subpart G revised by 51 FR 16443, May 2, 1986]

§264.110 Applicability.

Except as §264.1 provides otherwise:

(a) Sections 264.111-264.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 264.116-264.120 (which concern post-closure care) apply to the owners and operators of:

(1) All hazardous waste disposal facilities; and

(2) Waste piles and surface impoundments from which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in §§264.228 or 264.258.

(3) Tank systems that are required under §264.197 to meet the requirements for landfills.

[264.110(b)(3) added by 51 FR 25470, July 14, 1986]

§ 264.111 Closure performance standard.

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance; and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and

(c) Complies with the closure requirements of this subpart, including, but not limited to, the requirements of §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601 through 264.603.

[264.111 (c) amended by 52 FR 46963, December 10, 1987]

§ 264.112 Closure plan; amendment of plan.

(a) *Written plan.* (1) The owner or operator of a hazardous waste management facility must have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by §§ 264.228(c)(1)(i) and 264.258(c)(1)(i) to have contingent closure plans. The plan must be submitted with the permit application, in accordance with § 270.14(b)(13) of this chapter, and approved by the Regional Administrator as part of the permit issuance procedures under Part 124 of this chapter. In accordance with § 270.32 of this chapter, the approved closure plan will become a condition of any RCRA permit.

(2) The Director's approval of the plan must ensure that the approved closure plan is consistent with §§ 264.111 through 264.115 and the applicable requirements of §§ 264.90 *et seq.*, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601. Until final closure is completed and certified in accordance with § 264.115, a copy of the approved plan and all approved revisions must be furnished to the Director upon request, including request by mail.

[264.112 (a)(2) revised by 52 FR 46963, December 10, 1987]

(b) *Content of plan.* The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with § 264.111;

(2) A description of how final closure of the facility will be conducted in accordance with § 264.111. The description must identify the maximum extent of the operations which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the off-site hazardous waste management units to be used, if applicable; and

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the

extent of decontamination required to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.)

(7) For facilities that use trust funds to establish financial assurance under § 264.143 or § 264.145 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.

(c) *Amendment of plan.* The owner or operator must submit a written request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the procedures in Parts 124 and 270. The written request must include a copy of the amended closure plan for approval by the Regional Administrator.

(1) The owner or operator may submit a written request to the Regional Administrator for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

(2) The owner or operator must submit a written request for a permit modification to authorize a change in the approved closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

(3) The owner or operator must submit a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than 30 days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under § 264.228(c)(1)(i) or § 264.258(c)(1)(i), must submit an amended closure plan to the Regional Administrator no later than 60 days from the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310, or no later than 30 days from that date if the determination is made during partial or final closure. The Regional Administrator will approve, disapprove, or modify this amended plan in accordance with the procedures in Parts 124 and 270. In accordance with § 270.32 of this chapter, the approved closure plan will become a condition of any RCRA permit issued.

(4) The Regional Administrator may request modifications to the plan under the conditions described in § 264.112(c)(2). The owner or operator must submit the modified plan within 60 days of the Regional Administrator's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the Regional Administrator will be approved in accordance with the procedures in Parts 124 and 270.

(d) *Notification of partial closure and final closure.* (1) The owner or operator must notify the Regional Administrator in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed.

(2) The date when he "expects to begin closure" must be either no later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the Regional Administrator that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Regional Administrator may approve an extension to this one-year limit.

(3) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under section 3008 of RCRA, to cease receiving hazardous wastes or to close, then the requirements of this paragraph do not apply. However, the owner or operator must close the facility in accordance with the deadlines established in § 264.113.

(e) *Removal of wastes and decontamination or dismantling of equipment.* Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

§ 264.113 Closure; time allowed for closure.

(a) Within 90 days after receiving the final volume of hazardous wastes at a hazardous waste management unit or facility, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:

(1)(i) The activities required to comply with this paragraph will, of ne-

cessity, take longer than 90 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes; and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes at the hazardous waste management unit or facility. The Regional Administrator may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:

(1)(i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements.

(c) The demonstrations referred to in § 264.113(a) and (b) must be made as follows: (1) The demonstrations in paragraph (a) must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a); and (2) the demonstration in paragraph (b) must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section.

§ 264.114 Disposal or decontamination of equipment, structures and soils.

During the partial and final closure periods, all contaminated equipment, structures, and soils must be properly disposed of or decontaminated, unless otherwise specified in §§264.223, 264.258, 264.280, or 264.310, or under the authority of §264.601 and §264.603. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of Part 262 of this Chapter.

[264.114 amended by 52 FR 46963, December 10, 1987]

§ 264.115 Certification of closure.

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for closure under § 264.143(i).

§ 264.116 Survey plat.

No later than the submission of the certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a survey plat indicating the location and dimensions of landfills cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable Subpart G regulations.

§ 264.117 Post-closure care and use of property.

(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of §§ 264.117 through 264.120 must begin after completion of closure of the unit and continue for 30 years after that date and must consist of at least the following:

(i) Monitoring and reporting in accordance with the requirements of Subparts F, K, L, M, N, and X of this part; and

(ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of Subparts F, K, L, M, N, and X of this part.

[264.117 (a)(1)(i) and (ii) amended by 52 FR 46963, December 10, 1987]

(2) Any time preceding partial closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular unit, the Regional Administrator may, in accordance with the permit modification procedures in Parts 124 and 270:

(i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicate that the hazardous waste management unit or facility is secure); or

(ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of haz-

ardous wastes at levels which may be harmful to human health and the environment).

(b) The Regional Administrator may require, at partial and final closure, continuation of any of the security requirements of § 264.14 during part or all of the post-closure period when:

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Regional Administrator finds that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in § 264.118.

§ 264.118 Post-closure plan; amendment of plan.

(a) *Written Plan.* The owner or operator of a hazardous waste disposal unit must have a written post-closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) to have contingent post-closure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent post-closure plans under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Regional Administrator within 90 days from the date that the owner or operator or Regional administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of §§ 264.117 through 264.120. The plan must be submitted with the permit application, in accordance with § 270.14(b)(13) of this chapter, and approved by the Regional Administrator as part of the permit issuance procedures under Part 124 of this chapter. In accordance with § 270.32 of this chapter, the approved post-closure plan will become a condition of any RCRA permit issued.

(b) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subparts F, K, L, M, N, and X of this part during the post-closure care period; and

[264.118 (b)(1) amended by 52 FR 46963, December 10, 1987]

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of Subparts F, K, L, M, N, and X of this part; and

(ii) The function of the monitoring equipment in accordance with the requirements of Subparts, F, K, L, M, N, and X of this part; and

[264.118(b)(2)(i) and (ii) amended by 52 FR 46963, December 10, 1987]

(3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.

(c) Until final closure of the facility, a copy of the approved post-closure plan must be furnished to the Regional Administrator upon request, including request by mail. After final closure has been certified, the person or office specified in § 264.188(b)(3) must keep the approved post-closure plan during the remainder of the post-closure period.

(d) *Amendment of plan.* The owner or operator must request a permit modification to authorize a change in the approved post-closure plan in accordance with the applicable requirements of Parts 124 and 270. The written request must include a copy of the amended post-closure plan for approval by the Regional Administrator.

(1) The owner or operator may submit a written request to the Regional Administrator for a permit modification to amend the post-closure plan at any time during the active life of the facility or during the post-closure care period.

(2) The owner or operator must submit a written request for a permit modification to authorize a change in the approved post-closure plan whenever:

(i) Changes in operating plans or facility design affect the approved post-closure plan, or

(ii) There is a change in the expected year of final closure, if applicable, or

(iii) Events which occur during the active life of the facility, including partial and final closures, affect the approved post-closure plan.

(3) The owner or operator must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent post-closure plan under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Regional Administrator no later than 90 days after the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310. The Regional Administrator will approve, disapprove or modify this plan in accordance with the procedures in Parts 124 and 270. In accordance with § 270.32 of this chapter, the approved post-closure plan will become a permit condition.

(4) The Regional Administrator may request modifications to the plan under the conditions described in § 264.118(d)(2). The owner or operator must submit the modified plan no later than 60 days after the Regional Administrator's request, or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post-closure plan. Any modifications

requested by the Regional Administrator will be approved, disapproved, or modified in accordance with the procedures in Parts 124 and 270.

§ 264.119 Post-closure notices.

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property—or on some other instrument which is normally examined during title search—that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under 40 CFR Subpart G regulations; and

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by §§ 264.116 and 264.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Regional Administrator; and

(2) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (b)(1) of this section, including a copy of the document in which the notation has been placed, to the Regional Administrator.

(c) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he must request a modification to the post-closure permit in accordance with the applicable requirements in Parts 124 and 270. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of § 264.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of this chapter. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the Regional Administrator approve either:

(1) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

(2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

§ 264.120 Certification of completion of post-closure care.

No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under § 264.145(i).

Subpart H—Financial Requirements

§ 264.140 Applicability.

(a) The requirements of §§ 264.142, 264.143, and 264.147 through 264.151 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this section or in § 264.1.

(b) The requirements of §§ 264.144 and 264.145 apply only to owners and operators of:

(1) Disposal facilities, and

(2) Piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to such facilities in §§ 264.228 and 264.258.

(c) States and the Federal government are exempt from the requirements of this subpart.

§ 264.141 Definitions of terms as used in this subpart.

(a) "Closure plan" means the plan for closure prepared in accordance with the requirements of § 264.112.

(b) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with § 264.142 (a), (b), and (c).

(c) "Current post-closure cost estimate" means the most recent of the estimates prepared in accordance with § 264.144 (a), (b), and (c).

(d) "Parent corporation" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(e) "Post-closure plan" means the plan for post-closure care prepared in accordance with the requirements of §§ 264.117 through 264.120.

(f) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

"Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

"Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

"Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

"Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accord-

ance with § 144.62(a), (b), and (c) of this title.

[Added by 51 FR 16443, May 2, 1986]

"Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

"Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

"Net working capital" means current assets minus current liabilities.

"Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The Agency intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

"Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

"Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

§ 264.142 Cost estimate for closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in §§ 264.111 through 264.115 and applicable closure requirements in §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601 through 264.603.

[264.142 (a) introductory text amended by 52 FR 46963, December 10, 1987]

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 264.112(b)); and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 264.141(d).) The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes that might have economic value.

[264.142 (a) and (b) introductory text revised by 51 FR 16443, May 2, 1986]

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 264.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Regional Administrator as specified in § 264.143(f)(3). The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business*, as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the lastest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after the Regional Administrator has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in § 264.142(b).

[264.142(c) amended by 52 FR 16443, May 2, 1986]

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with § 264.142 (a) and (c) and, when this estimate has been adjusted in accordance with § 264.142(b), the latest adjusted closure cost estimate.

(Approved by the Office of Management and Budget under control number 2050-0033)

§ 264.143 Financial assurance for closure.

An owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (f) of this section.

(a) *Closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Regional

Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Regional Administrator before this initial receipt of hazardous waste. The first payment must be at least equal to the current closure cost estimate, except as provided in § 264.143(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.143(a) of this chapter, and the value of that trust fund is less than the current closure cost estimate when a permit is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to Part 265 of this chapter. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.143 of this chapter, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.143(a) of this chapter, as applicable.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a)(7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 264.143(i) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(11) The Regional Administrator will agree to termination of the trust when:

[Sec. 264.143(a)(11)]

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

[264.143(a)(10) revised by 51 FR 16443, May 2, 1986]

(b) *Surety bond guaranteeing payment into a closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

[264.143(b)(4)(ii) amended by 51 FR 16443, May 2, 1986]

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in § 264.143(g).

(7) Whenever the current closure cost estimate increases, to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidence by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Surety bond guaranteeing performance of closure.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(c).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust must meet the requirements specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.

[264.143(c)(5) amended by 51 FR 16443, May 2, 1986]

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate.

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent. The Regional Administrator will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(10) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(d) *Closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. An owner or operator of a new facility must submit the letter of credit to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Region Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in § 264.143(g).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost es-

timate decreases, the amount of the credit may be reduced to the amout of the current closure cost estimate following written approval by the Regional Administrator.

(8) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the Regional Administrator may draw on the letter of credit.

[264.143(d)(8) amended by 51 FR 16443, May 2, 1986]

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator.

(10) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(e) *Closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. An owner or operator of a new facility must submit the certificate of insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or suplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in § 264.143(g). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Regional Administrator will instruct the insurer to make reimbursements in such amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 264.143(i), that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a cetailed written statement of reasons.

[264.143(e)(5) revised by 51 FR 16443, May 2, 1986]

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (e)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Adminstrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(10) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(f) *Financial test and corporate guarantee for closure.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (f)(1)(ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

[264.143(f)(1)(i)(B) amended by 51 FR 16443, May 2, 1986]

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

[264.143(f)(1)(i)(D) amended by 51 FR 16443, May 2, 1986]

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

[264.143(f)(1)(ii)(B) amended by 51 FR 16443, May 2, 1986]

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

[264.143(f)(1)(ii)(D) amended by 51 FR 16443, May 2, 1986]

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

[264.143(f)(2) revised by 51 FR 16443, May 2, 1986]

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which

the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(8) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in § 264.151(h). The corporate guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. The terms of the corporate guarantee must provide that:

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.143(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

(g) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for closure of the facility.

(h) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) *Release of the owner or operator from the requirements of this section.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Regional Administrator has reason to believe that final closure has not been in accordance with the approved closure plan. The Regional Administrator shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

[264.143(i) revised by 51 FR 16443, May 2, 1986]

§ 264.144 Cost estimate for post-closure care.

(a) The owner or operator of a disposal surface impoundment, disposal miscellaneous unit, land treatment unit, or landfill unit, or of a surface impoundment or waste pile required under §§ 264.228 and 264.258 to prepare a contingent closure and post-closure plan, must have a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in §§ 264.117 through 264.120, 264.228, 264.258, 264.280, 264.310, and 264.603.

[264.144 (a) introductory text amended by 52 FR 46963, December 10, 1987]

(1) The post-closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 264.141(d).)

(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under § 264.117.

[264.144 (a) and (b) introductory text revised by 51 FR 16443, May 2, 1986]

(b) During the active life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 264.145. For owners or operators using the financial test or corporate guarantee, the post-closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to the Regional Administrator as specified in § 264.145(f)(5). The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business* as specified in § 264.145(b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the post-closure cost estimate within 30 days after the Regional Administrator has approved the request to modify the post-closure plan, if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in §264.144(b).

[264.144(c) amended by 51 FR 16443, May 2, 1986]

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest post-closure cost estimate prepared in accordance with § 264.144 (a) and (c) and, when this estimate has been adjusted in accordance with § 264.144(b), the latest adjusted post-closure cost estimate.

§ 264.145 Financial assurance for post-closure care.

The owner or operator of a hazardous waste management unit subject to the requirements of § 264.144 must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility 60 days prior to the initial receipt of hazardous waste or the effective date of the regulation, whichever is later. He must choose from the following options:

[264.145 introductory paragraph revised by 51 FR 16443, May 2, 1986]

(a) *Post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a post-closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the post-closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Regional Administrator before this initial receipt of hazardous waste. The first payment must be at least equal to the current post-closure cost estimate, except as provided in § 264.145(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversay date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.145(a) of this chapter, and the value of that trust fund is less than the current post-closure cost estimate when a permit is awarded for the facility, the amount of the current post-closure cost estimate still to be paid

into the fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to Part 265 of this chapter. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.145 of this chapter, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.145(a) of this chapter, as applicable.

(6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) During the period of post-closure care, the Regional Administrator may approve a release of funds if the owner or operator demonstrates to the Regional Administrator that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

[264.145(a)(11) revised by 51 FR 16443, May 2, 1986]

(12) The Regional Administrator will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(b) *Surety bond guaranteeing payment into a post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

[264.145(b)(4)(ii) revised by 51 FR 16443, May 2, 1986]

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Surety bond guaranteeing performance of post-closure care.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(c).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Perform post-closure care in accordance with the post-closure plan and other requirements of the permit for the facility; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days of receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure care in accordance with the post-closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

[264.145(c)(5) revised by 51 FR 16443, May 2, 1986]

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate.

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the penal sum if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

[Sec. 264.145(c)(8)]

(9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(10) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent. The Regional Administrator will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) The surety will not be liable for deficiencies in the performance of post-closure care by the owner or operator after the Regional Administrator releases the owner or operator from the requirements of this section in accordance with §264.145(i).

(d) *Post-closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. An owner or operator of a new facility must submit the letter of credit to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in a amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Following a final administrative determination pursuant to Section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, the Regional Administrator may draw on the letter of credit.

[264.145(d)(9) amended by 51 FR 16443, May 2, 1986]

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator.

(11) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

[Sec. 264.145(d)(11)]

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(e) *Post-closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtaining post-closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. An owner or operator of a new facility must submit the certificate of insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the insurer to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

[264.145(e)(5) revised by 51 FR 16443, May 2, 1986]

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (e)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Administrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(f) *Financial test and corporate guarantee for post-closure care.* (1) An owner or operator may satisfy the requirements of this section by demon-

strating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (f)(1)(ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

[264.145(f)(1)(i)(B) amended by 51 FR 16443, May 2, 1986]

(C) Tangible net worth of at least $10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

[264.145(f)(1)(i)(D) amended by 51 FR 16443, May 2, 1986]

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

[264.145(f)(1)(ii)(B) amended by 51 FR 16443, May 2, 1986]

(C) Tangible net worth of at least $10 million; and

[264.145(f)(1)(ii)(D) amended and (2) revised by 51 FR 16443, May 2, 1986]

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§144.70(f) of this Title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Regional Administrator may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Regional Administrator that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes

alternate financial assurance as specified in this section; or

(II) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (9) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in § 264.151(h). The corporate guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. The terms of the corporate guarantee must provide that:

(I) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.145(a) in the name of the owner or operator.

(II) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(III) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(g) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for post-closure care of the facility.

(h) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) *Release of the owner or operator from the requirements of this Section.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that the post-closure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the Regional Administrator will notify the owner or operator that he is no longer required to maintain financial assurance for post-closure care of that unit, unless the Regional Administrator has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Regional Administrator shall provide the owner or operator with a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan

[264.145(i) revised by 51 FR 16443, May 2, 1986]

§ 264.146 Use of a mechanism for financial assurance of both closure and post-closure care.

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both §§ 264.143 and 264.145. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

§ 264.147 Liability requirements.

(a) *Coverage for sudden accidental occurrences.* An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occur-

rences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways, as specified in paragraphs (a)(1), (a)(2), and (a)(3) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Regional Administrator, or Regional Administrators if the facilities are located in more than one Region. If requested by a Regional Administrator, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[264.147(a)(2) and (3) amended by 51 FR 25354, July 11, 1986]

[Interim Final]

(2) An owner or operator may meet the requirements of this section by passing a financial test for liability coverage as specified in paragraph (f) of this section.

(3) An owner or operator may demonstrate the required liability coverage through use of both the financial test and insurance as these mechanisms are specified in this section. The amounts of coverage demonstrated must total at least the minimum amounts required by this paragraph.

(b) *Coverage for nonsudden accidental occurrences.* An owner or operator of a surface impoundment, landfill, land treatment facility, or miscellaneous disposal unit that is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways, as specified in paragraphs (b)(1), (b)(2), and (b)(3) of this section:

[264.147(b) introductory text amended by 52 FR 46963, December 10, 1987]

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Regional Administrator, or Regional Administrators if the facilities are located in more than one Region. If requested by a Regional Administrator, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[264.147(b)(2) and (3) amended by 51 FR 25354, July 11, 1986]

[Interim Final]

(2) An owner or operator may meet the requirements of this section by passing a financial test for liability coverage as specified in paragraph (f) of this section.

(3) An owner or operator may demonstrate the required liability coverage through use of both the financial test and insurance as these mechanisms are specified in this section. The amounts of coverage must total at least the minimum amounts required by this paragraph.

(4) For existing facilities, the required liability coverage for nonsudden accidental occurrences must be demonstrated by the dates listed below. The total sales or revenues of the owner or operator in all lines of business, in the fiscal year preceding the effective date of these regulations, will determine which of the dates applies. If the owner and operator of a facility are two different parties, or if there is more than one owner or operator, the sales or revenues of the owner or operator with the largest sales or revenues will determine the date by which the coverage must be demonstrated. The dates are as follows:

(i) For an owner or operator with sales or revenues totalling $10 million or more, 6 months after the effective date of these regulations.

(ii) For an owner or operator with sales or revenues greater than $5 million but less than $10 million, 18 months after the effective date of these regulations.

(iii) All other owners or operators, 30 months after the effective date of these regulations.

(c) *Request for variance.* If an owner or operator can demonstrate to the satisfaction of the Regional Adminis-

irator that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Regional Administrator. The request for a variance must be submitted to the Regional Administrator as part of the application under § 270.14 of this chapter for a facility that does not have a permit, or pursuant to the procedures for permit modification under § 124.5 of this chapter for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Regional Administrator may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Regional Administrator to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. Any request for a variance for a permitted facility will be treated as a request for a permit modification under §§ 270.41(a)(5) and 124.5 of this chapter.

(d) *Adjustments by the Regional Administrator.* If the Regional Administrator determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Regional Administrator may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Regional Administrator determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under §§ 270.41(a)(5) and 124.5 of this chapter.

(e) *Period of coverage.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this Section to maintain liability coverage for that facility, unless the Regional Administrator has reason to believe that closure has not been in accordance with the approved closure plan.

[264.147(e) revised by 51 FR 16443, May 2, 1986]

(f) *Financial test for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (f)(1)(ii):

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least $10 million; and

(C) Assets in the United States amounting to either: (*1*) at least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least $10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either (*1*) at least 90 percent of his total assets, or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by §§ 264.143(f), 264.145(f), 265.143(e), and 265.145(e), and liability coverage, he must submit the letter specified in § 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in § 264.151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the

Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance for the entire amount of required liability coverage as specified in this section. Evidence of insurance must be submitted to the Regional Administrator within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

[New 264.147(g) added by 51 FR 25354, July 11, 1986]

(g) Corporate guarantee for liability coverage.

(1) Subject to subparagraph (2), an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantee must meet the requirements for owners or operators in paragraphs (f)(1) through (7) of this section. The wording of the corporate guarantee must be identical to the wording specified in §264.151(h)(2). A certified copy of the corporate guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. The terms of the corporate guarantee must provide that:

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator(s). This guarantee may not be terminated unless and until the EPA Regional Administrator(s) approve(s) alternate liability coverage complying with section 264.147 and/or 265.147.

(2)(i) In the case of corporations incorporated in the United States, a corporate guarantee may be used to satisfy the requirements of this section only if the Attorneya General or Insurance Commissioners of (A) the State in which the guarantor is incorporated, and (B) each State in which a facility covered by the guarantee is located have submitted a written statement to EPA that a corporate guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a corporate guarantee may be used to satisfy the requirements of this section only if (A) the non-U.S. corporation has identified a regiatered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and (B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a corporate guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

[264.147(g)(2) revised by 52 FR 44320, November 18, 1987]

(h) Notwithstaoding any other provision of this part, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States.

[Former 264.147 (g) redesignated as (h) by 51 FR 25354, July 11, 1986]

(Approved by the Office of Management and Budget under control number 2000-0445, for paragraphs (a)(1)(i), (b)(1)(i), (c), (d), and (f)(3) through (6).)

§ 264.148 Incapacity of owners or operators, guarantors, or financial institutions.

(a) An owner or operator must notify the Regional Administrator by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §§ 264.143(f) and 264.145(f) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (§ 264.151(h)).

(b) An owner or operator who fulfills the requirements of § 264.143, § 264.145, or § 264.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

§ 264.149 Use of State-required mechanisms.

(a) For a facility located in a State where EPA is administering the requirements of this Subpart but where the State has hazardous waste regulations that include requirements for financial assurance of closure or post-closure care or liability coverage, an owner or operator may use State-re-

quired financial mechanisms to meet the requirements of § 264.143, § 264.145, or § 264.147, if the Regional Administrator determines that the State mechanisms are at least equivalent to the financial mechanism specified in this Subpart. The Regional Administrator will evaluate the equivalency of the mechanisms principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator evidence of the establishment of the mechanism together with a letter requesting that the State-required mechanism be considered acceptable for meeting the requirements of this Subpart. The submission must include the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage assured by the mechanism. The Regional Administrator will notify the owner or operator of his determination regarding the mechanism's acceptability in lieu of financial mechanisms specified in this Subpart. The Regional Administrator may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 264.143, § 264.145, or § 264.147, as applicable.

(b) If a State-required mechanism is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this Subpart by increasing the funds available through the State-required mechanism or using additional financial mechanisms as specified in this Subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this Subpart.

§ 264.150 State assumption of responsibility.

(a) If a State either assumes legal responsibility for an owner's or operator's compliance with the closure, post-closure care, or liability requirements of this Part or assures that funds will be available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of § 264.143, § 264.145, or § 264.147 if the Regional Administrator determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this Subpart. The Regional Administrator will evaluate the equivalency of State guarantees principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this Subpart. The letter from the State must include, or have attached to it, the following information: the facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage that are guaranteed by the State. The Regional Administrator will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this Subpart. The Regional Administrator may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 264.143, § 264.145, or § 264.147, as applicable.

(b) If a State's assumption of responsibility is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this Subpart by use of both the State's assurance and additional financial mechanisms as specified in this Subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this Subpart.

§ 264.151 Wording of the instruments.

(a)(1) A trust agreement for a trust fund, as specified in § 264.143(a) or § 264.145(a) or § 265.143(a) or § 265.145(a) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

TRUST AGREEMENT

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert "incorporated in the State of ——" or "a national bank"], the "Trustee."

Whereas, the United States Environmental Protection Agency, "EPA," an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility,

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, Therefore, the Grantor and the Trustee agree as follows.

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of EPA. The Grantor and the Trustee intend that no third party have access to the Fund

[Sec. 264.151(a)(1)]

except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make payments from the Fund as the EPA Regional Administrator shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the EPA Regional Administrator from the Fund for closure and post-closure expenditures in such amounts as the EPA Regional Administrator shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the EPA Regional Administrator specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; *except that:*

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10

[Sec. 264.151(e)(1)]

days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the appropriate EPA Regional Administrator, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the payin period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of [insert name of State].

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(a)(1) as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]
[Signature of Trustee]
Attest:
[Title]
[Seal]

(2) The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in §§ 264.143(a) and 264.145(a) or §§ 265.143(a) or 265.145(a) of this chapter. State requirements may differ on the proper content of this acknowledgment.

State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

[264.151(b) revised by 51 FR 16443, May 2, 1986]

(b) A surety bond guaranteeing payment into a trust fund, as specified in § 264.143(b) or § 264.145(b) or § 265.143(b) or § 265.145(b) of this Chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Financial Guarantee Bond

Date bond executed:
Effective date:
Principal: [legal name and business address of owner or operator]

Type of Organization: [insert "individual," "joint venture," "partnership," or "corporation"]
State of incorporation: _____
Surety(ies): [name(s) and business address(es)]
EPA Identification Number, name, address and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]: _____
Total penal sum of bond: $ _____
Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the U.S. Environmental Protection Agency (hereinafter called EPA), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Resource Conservation and Recovery Act as amended (RCRA), to have a permit or interim status in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit or interim status, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

[Sec. 264.151(b)]

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility.

Or, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after a final order to begin closure is issued by an EPA Regional Administrator or a U.S. district court or other court of competent jurisdiction,

(c) A surety bond guaranteeing performance of closure and/or post-closure care, as specified in § 264.143(c) or § 264.145(c), must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

PERFORMANCE BOND

Date bond executed: ————————

Effective date: ————————

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: ————————

Surety(ies): [name(s) and business address(es)] ————————

EPA Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]: ——

Total penal sum of bond: $ ————————

Surety's bond number: ————————

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the U.S. Environmental Protection Agency (hereinafter called EPA), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Resource Conservation and Recovery Act as amended (RCRA), to have a permit in order to own or operate each hazardous waste management facility indentified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

Or, if the Principal shall provide alternate financial assurance as specified in Subpart H of 40 CFR Part 264, and obtain the EPA Regional Administrator's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the EPA Regional Administrator(s) from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by an EPA Regional Administrator that the Principal has been found in violation of the closure requirements of 40 CFR Part 264, for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the EPA Regional Administrator.

Upon notification by an EPA Regional Administrator that the Principal has been found in violation of the post-closure requirements of 40 CFR Part 264 for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform post-closure care in accordance with the post-closure plan and other permit requirements or place the post-closure amount guaranteed for the facility into the standby trust fund as directed by the EPA Regional Administrator.

Upon notification by an EPA Regional Administrator that the Principal has failed to provide alternate financial assurance as specified in Subpart H of 40 CFR Part 264, and obtain written approval of such assurance from the EPA Regional Administrator(s) during the 90 days following receipt by both the Principal and the EPA Regional Administrator(s) of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the EPA Regional Administrator.

The surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is (are) located, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the EPA Regional Administrator(s), as evidenced by the return receipts.

The principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the EPA Regional Administrator(s) of the EPA Region(s) in which the bonded facility(ies) is (are) located.

[The following paragraph is an *optional* rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the EPA Regional Administrator(s).

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 264.151(c) as such regulation was constituted on the date this bond was executed.

[Sec. 264.151(c)]

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

Corporate Surety(ies)

[Name and address]

State of incorporation: ————————

Liability limit: $ ————————

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: $ ————————

(d) A letter of credit, as specified in § 264.143(d) or § 264.145(d) or § 265.143(c) or § 265.145(c) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

Regional Administrator(s)
Region(s) ————————————

U.S. Environmental Protection Agency

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No.—— in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars $——, available upon presentation [insert, if more than one Regional Administrator is a beneficiary, "by any one of you"] of

(1) your sight draft, bearing reference to this letter of credit No.——, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Resource Conservation and Recovery Act of 1976 as amended."

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 264.151(d) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce," or "the Uniform Commercial Code"].

(e) A certificate of insurance, as specified in § 264.143(e) or § 264.145(e) or § 265.143(d) or § 265.145(d) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certificate of Insurance for Closure or Post-Closure Care

Name and Address of Insurer (herein called the "Insurer"): ————————

Name and Address of Insured (herein called the "Insured"): ————————

Facilities Covered: [List for each facility: The EPA Identification Number, name, address, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities covered must total the face amount shown below).]

Face Amount: ————————

Policy Number: ————————

Effective Date: ————————

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and post-closure care" or "post-closure care"] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 264.143(e), 264.145(e), 265.143(d), and 265.145(d), as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the EPA Regional Administrator(s) of the U.S. Environmental Protection Agency, the Insurer agrees to furnish to the EPA Regional Administrator(s) a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in 40 CFR 264.151(e) as such regulations were constituted on the date shown immediately below.

[Authorized signature for Insurer]
[Name of person signing]
[Title of person signing]
Signature of witness or notary ————————
[Date]

(f) A letter from the chief financial officer, as specified in § 264.143(f) or § 264.145(f) or § 265.143(e) or § 265.145(e) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Letter From Chief Financial Officer

[Address to Regional Administrator of every Region in which facilities for which financial responsibility is to be demonstrated through the financial test are located.]

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Subpart H of 40 CFR Parts 264 and 265.

[Fill out the following four paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: ——.

2. This firm guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure or post-closure care of the following facilities owned or operated by subsidiaries of this firm. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: ——.

3. In States where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: ——.

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure

care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: ———.

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of § 264.143 or § 264.145, or of paragraph (e)(1)(i) of § 265.143 or § 265.145 of this chapter are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of § 264.143 or § 264.145, or of paragraph (e)(1)(ii) of § 265.143 or § 265.145 of this chapter are used.]

ALTERNATIVE I

1. Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the four paragraphs above]	$
*2. Total liabilities [if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4]	
*3. Tangible net worth	
*4. Net worth	
*5. Current assets	
*6. Current liabilities	
7. Net working capital [line 5 minus line 6]	
*8. The sum of net income plus depreciation, depletion, and amortization	
*9. Total assets in U.S. [required only if less than 90% of firm's assets are located in the U.S.]	

	Yes	No
10. Is line 3 at least $10 million?		
11. Is line 3 at least 6 times line 1?		
12. Is line 7 at least 6 times line 1?		
*13. Are at least 90% of firm's assets located in the U.S.? If not, complete line 14		
14. Is line 9 at least 6 times line 1?		
15. Is line 2 divided by line 4 less than 2.0?		
16. Is line 8 divided by line 2 greater than 0.1?		
17. Is line 5 divided by line 6 greater than 1.5?		

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates [total of all cost estimates shown in the four paragraphs above]	$
2. Current bond rating of most recent issuance of this firm and name of rating service	
3. Date of issuance of bond	
4. Date of maturity of bond	
*5. Tangible net worth [if any portion of the closure and post-closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line]	$
*6. Total assets in U.S. [required only if less than 90% of firm's assets are located in the U.S.]	$

	Yes	No
7. Is line 5 at least $10 million?		
8. Is line 5 at least 6 times line 1?		
*9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10		
10. Is line 6 at least 6 times line 1?		

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(f) as such regulations were constituted on the date shown immediately below.

[Signature]
[Name]
[Title]
[Date]

(5) This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under Part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility:

[264.151(f)(5) added by 51 FR 16443, May 2, 1986]

[264.151(g) revised by 51 FR 25354, July 11, 1986]

[Interim Final]

(g) A letter from the chief financial officer, as specified in § 264.147(f) or § 265.147(f) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Letter From Chief Financial Officer

[Address to Regional Administrator of every Region in which facilities for which financial responsibility is to be demonstrated through the financial test are located.]

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and closure and/or post-closure care" if applicable] as specified in Subpart H of 40 CFR Parts 264 and 265.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA identification Number, name, and address.]

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265: ———.

The firm identified above guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following subsidiaries of the firm: ———.

[If you are using the financial test to demonstrate coverage of both liability and closure and post-closure care, fill in the following four paragraphs regarding facilities and associated closure and post-closure cost estimates. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: ———.

2. The firm identified above guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure and post-closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: ———.

3. In States where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this firm is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure or post-closure cost estimates covered by such a test are shown for each facility: ———.

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility,

[Sec. 264.151(g)]

post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanisms specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:_____

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under Part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility:_____

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this form ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[264.151(g)(5) added by 51 FR 16443, May 2, 1986]

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of paragraph ([X]1[X]) of § 264.147 or § 265.147 are used. Fill in Alternative II if the criteria of paragraph ([X]1[X]) of § 264.147 or § 265.147 are used.]

ALTERNATIVE I

1. Amount of annual aggregate liability coverage to be demonstrated	$_____
*2. Current assets	$_____
*3. Current liabilities	$_____
4. Net working capital (line 2 minus line 3)	$_____
*5. Tangible net worth	$_____
*6. 4 less than 60% of assets are located in the U.S., give total U.S. assets	$_____

	YES	NO
7. Is line 5 at least $10 million?	____	____
8. Is line 4 at least 6 times line 1?	____	____
9. Is line 5 at least 6 times line 1?	____	____
*10. Are at least 90% of assets located in the U.S.? If not, complete line 11	____	____
11. Is line 6 at least 6 times line 1?	____	____

ALTERNATIVE II

1. Amount of annual aggregate liability coverage to be demonstrated	$_____
2. Current bond rating of most recent issuance and name of rating service	_____
3. Date of issuance of bond	_____
4. Date of maturity of bond	_____
*5. Tangible net worth	$_____
*6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.)	$_____

	YES	NO
7. Is line 5 at least $10 million?	____	____
8. Is line 5 at least 6 times line 1?	____	____
*9. Are at least 90% of assets located in the U.S.? If not, complete line 10	____	____
10. Is line 6 at least 6 times line 1?	____	____

[Fill in part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or post-closure care.]

Part B. Closure or Post-Closure Care and Liability Coverage

[Fill in Alternative I if the criteria of paragraphs ([X]1[X]) of § 264.143 or § 264.145 and ([X]1[X]) of § 264.147 are used or if the criteria of paragraphs (e[X]1[X]) of § 265.143 or § 265.145 and ([X]1[X]) of § 265.147 are used. Fill in Alternative II if the criteria of paragraphs ([X]1[X]) of § 264.143 or § 264.145 and ([X]1[X]) of § 264.147 are used or if the criteria of paragraphs (e[X]1[X]) of § 265.143 or § 265.145 and ([X]1[X]) of § 265.147 are used.]

ALTERNATIVE I

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above)	$_____
2. Amount of annual aggregate liability coverage to be demonstrated	$_____
3. Sum of lines 1 and 2	$_____
*4. Total liabilities (if any portion of your closure or post-closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6)	$_____
*5. Tangible net worth	$_____
*6. Net worth	$_____
*7. Current assets	$_____
*8. Current liabilities	$_____
9. Net working capital (line 7 minus line 8)	$_____
*10. The sum of net income plus depreciation, depletion, and amortization	$_____
*11. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.)	$_____

	YES	NO
12. Is line 5 at least $10 million?	____	____
13. Is line 5 at least 6 times line 3?	____	____
14. Is line 9 at least 6 times line 3?	____	____
*15. Are at least 90% of assets located in the U.S.? If not, complete line 16	____	____
16. Is line 11 at least 6 times line 3?	____	____
17. Is line 4 divided by line 5 less than 2.0?	____	____
18. Is line 10 divided by line 4 greater than 0.1?	____	____
19. Is line 7 divided by line 8 greater than 1.5?	____	____

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates (total of all cost estimates listed above)	$_____
2. Amount of annual aggregate liability coverage to be demonstrated	$_____
3. Sum of lines 1 and 2	$_____
4. Current bond rating of most recent issuance and name of rating service	_____
5. Date of issuance of bond	_____
6. Date of maturity of bond	_____
*7. Tangible net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line)	$_____
*8. Total assets in the U.S. (required only if less than 90% of assets are located in the U.S.)	$_____

	YES	NO
9. Is line 7 at least $10 million?	____	____
10. Is line 7 at least 6 times line 3?	____	____
*11. Are at least 90% of assets located in the U.S.? If not, complete line 12	____	____
12. Is line 8 at least 6 times line 3?	____	____

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(g) as such regulations were constituted on the date shown immediately below.

[Signature]
[Name]
[Title]
[Date]

(b)(1) A corporate guarantee, as specified in §264.143(f) or §264.145(f) or §265.143(e) or §265.145(e) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

[264.151(b) introductory paragrapb designated as (b)(1) by 51 FR 25354, July 11, 1986]

CORPORATE GUARANTEE FOR CLOSURE OR POST-CLOSURE CARE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the State of [insert name of State], herein referred to as guarantor, to the United States Environmental Protection Agency (EPA), obligee, on behalf of our subsidiary [owner or operator] of [business address].

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in 40 CFR 264.143(f), 264.145(f), 265.143(e), and 265.145(e).

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address. Indicate for each whether guarantee is for closure, post-closure care, or both.]

[Sec. 264.151(b)(1)]

3. "Closure plans" and "post-closure plans" as used below refer to the plans maintained as required by Subpart G of 40 CFR Parts 264 and 265 for the closure and post-closure care of facilities as identified above.

4. For value received from [owner or operator], guarantor guarantees to EPA that in the event that [owner or operator] fails to perform [insert "closure," "post-closure care" or "closure and post-closure care"] of the above facility(ies) in accordance with the closure or post-closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Subpart H of 40 CFR Parts 264 or 265, as applicable, in the name of [owner or operator] in the amount of the current closure or post-closure cost estimates as specified in Subpart H of 40 CFR Parts 264 and 265.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is (are) located and to [owner or operator] that he intends to provide alternate financial assurance as specified in Subpart H of 40 CFR Parts 264 or 265, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the EPA Regional Administrator by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by an EPA Regional Administrator of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in Subpart H of 40 CFR Parts 264 or 265, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to 40 CFR Parts 264 or 265.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of Subpart H of 40 CFR Parts 264 and 265 for the above-listed facilities, except that guarantor may cancel this guarantee by sending notice by certified mail to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is (are) located and to [owner or operator], such cancellation to become effective no earlier than 120 days after receipt of such notice by both EPA and [owner or operator], as evidenced by the return receipts.

10. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in Subpart H of 40 CFR Parts 264 or 265, as applicable, and obtain written approval of such assurance from the EPA Regional Administrator(s) within 90 days after a notice of cancellation by the guarantor is received by an EPA Regional Administrator from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

11. Guarantor expressly waives notice of acceptance of this guarantee by the EPA or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in 40 CFR 264.151(h) as such regulations were constituted on the date first above written.

Effective date: _____

[Name of guarantor]

[Authorized signature for guarantor]

[Name of person signing]

[Title of person signing]

Signature of witness or notary: _____

[264.151 (h)(2) added by 51 FR 25354, July 11, 1986; revised by 52 FR 44320, November 18, 1987]

(2) A corporate guarantee, as specified in § 264.147(g) or § 265.147(g) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Corporate Guarantee for Liability Coverage

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States insert "the State of ——" and insert name of State; if incorporated outside the United States insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the State of the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of our subsidiary [owner or operator] of [business address], to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in 40 CFR 264.147(g) and 265.147(g).

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address; and if guarantor is incorporated outside the United States list the name and address of the guarantor's registered agent in each State.] This corporate guarantee satisfies RCRA third-party liability requirements for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s) or settlement agreement(s) up to the

[Sec. 264.151(h)(2)]

limits of coverage identified above.

4. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the EPA Regional Administrator[s] for the Region[s] in which the facility[ies] is[are] located and to [owner or operator] that he intends to provide alternate liability coverage as specified in 40 CFR 264.147 and 265.147, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless [owner or operator] has done so.

5. The guarantor agrees to notify the EPA Regional Administrator by certified mail of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

6. Guarantor agrees that within 30 days after being notified by an EPA Regional Administrator of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in 40 CFR 264.147 or 265.147 in the name of [owner or operator], unless [owner or operator] has done so.

7. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by 40 CFR 264.147 and 265.147, provided that such modification shall become effective only if a Regional Administrator does not disapprove the modification within 30 days of receipt of notification of the modification.

8. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of 40 CFR 264.147 and 265.147 for the above-listed facility(ies), except as provided in paragraph 9 of this agreement.

9. Guarantor may terminate this guarantee by sending notice by certified mail to the EPA Regional Administrator[s] for the Region[s] in which the facility[ies] is[are] located and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the EPA Regional Administrator[s] approve[s] alternate liability coverage complying with 40 CFR 264.147 and/or 265.147.

10. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

11. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

12. Exclusions

This corporate guarantee does not apply to:

[i] Bodily injury or property damage for which the owner or operator is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the owner or operator would be obligated to pay in the absence of the contract or agreement.

[ii] Any obligation of the owner or operator under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

[iii] Bodily injury to:

[A] An employee of the owner or operator arising from, and in the course of, employment by the owner or operator; or

[B] The spouse, child, parent, brother or sister of that employeee as a consequence of, or arising from, and in the course of, employment by the owner or operator.

This exclusion applies:

[1] Whether the owner or operator may be liable as an employer or in any other capacity; and

[2] To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs [A] and [B].

[iv] Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

[v] Property damage to:

[A] Any property owned, rented, or occupied by the owner or operator;

[B] Premises that are sold, given away or abandoned by the owner or operator if the property damage arises out of any part of those premises;

[C] Property loaned to the owner or operator;

[D] Personal property in the care, custody or control of the owner or operator;

[E] That particular part of real property on which the owner or operator or any contractors or subcontractors working directly or indirectly on behalf of the owner or operator are performing operations, if the property damage arises out of these operations.

I hereby certify that the wording of the guarantee is identical to the wording specified in 40 CFR 264.151(h)[2].

Effective date.—

[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]
[Title of person signing]
Signature of witness or notary

(f) A hazardous waste facility liability endorsement as required in § 264.147 or § 265.147 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

HAZARDOUS WASTE FACILITY LIABILITY ENDORSEMENT

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the insurer's liability], exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured shall not relieve the insurer of its obligations under the policy to which this endorsement is attached.

(b) The insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).

(c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the insurer agrees to

[Sec. 264.151(f)]

furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the insurer or the insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

Attached to and forming part of policy No. ——— issued by [name of insurer], herein called the insurer, of [address of insurer] to [name of insured] of [address] this — day of ——, 19—. The effective date of said policy is — day of ———, 19—.

I hereby certify that the wording of this endorsement is identical to the wording specified in 40 CFR 264.151(i) as such regulation was constituted on the date first above written, and that the insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of Authorised Representative of Insurer]

[Type name]

[Title], Authorized Representive of [name of insurer]

[Address of Representative]

(j) A certificate of liability insurance as required in § 264.147 or § 265.147 must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. [Name of insurer], (the "Insurer"), of [address of insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the "insured"), of [address of insured] in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number ———, issued on [date]. The effective date of said policy is [date].

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).

(c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the Insurer agrees to furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the Insurer or the insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

I hereby certify that the wording of this instrument is identical to the wording specified in 40 CFR 264.151(j) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of authorised representative of Insurer]

[Type name]

[Title], Authorised Representative of [name of Insurer]

[Address of Representative]

(Approved by the Office of Management and Budget under control number 2000-0445, for paragraphs (g), (i), and (j).)

Subpart I—Use and Management of Containers

§ 264.170 Applicability.

The regulations in this Subpart apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as § 264.1 provides otherwise.

[*Comment:* Under § 261.7 and § 261.33(c), if a hazardous waste is emptied from a container is not considered a hazardous waste if the container is "empty" as defined in § 261.7. In that event, management of the container is exempt from the requirements o. this Subpart.]

§ 264.171 Condition of containers.

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this part.

§ 264.172 Compatibility of waste with containers.

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

§ 264.173 Management of containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

[*Comment:* Reuse of containers in transportation is governed by U.S. Department of Transportation regulations including those set forth in 49 CFR 173.28.]

§ 264.174 Inspections.

At least weekly, the owner or operator must inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

[*Comment:* See §§ 264.15(c) and 264.171 for remedial action required if deterioration or leaks are detected.]

§§ 264.284-264.299 [Reserved]

Subpart N—Landfills

[Subpart N added by 47 FR 32349, July 26, 1982, effective January 26, 1983]

§ 264.300 Applicability.

The regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as § 264.1 provides otherwise.

§ 264.301 Design and operating requirements.

(a) Any landfill that is not covered by paragraph (c) of this section or § 265.301(a) of this chapter must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have:

[264.301(a) introductory paragraph revised by 50 FR 28742, July 15, 1985]

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at anytime during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Regional Administrator will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and ground water or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

[New 264.301(c)—(e) added by 50 FR 28742, July 15, 1985]

(c) The owner or operator of each new landfill, each new landfill unit at an existing facility, each replacement of an existing landfill unit, and each lateral expansion of an existing landfill unit, must install two or more liners and a leachate collection system above and between the liners. The liners and leachate collection systems must protect human health and the environment. The requirement for the installation of two or more liners in this paragraph may be satisfied by the installation of a top liner designed, operated and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any post-closure monitoring period), and a lower liner designed, operated, and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy such requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

(d) Paragraph (c) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under RCRA 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

[Former 264.301(c)—(g) redesignated as (f)—(j) by 50 FR 28742, July 15, 1985]

(f) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(g) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(h) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

[Sec. 264.301(h)]

(i) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.

(j) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(k) Any permit under RCRA 3005(c) which is issued for a landfill located within the State of Alabama shall require the installation of two or more liners and a leachate collection system above and between such liners, notwithstanding any other provision of RCRA.

[264.301(k) added by 50 FR 28742, July 15, 1985]

(Approved by the Office of Management and Budget under control number 2050-0007)

[264.301 amended by 50 FR 4513, January 31, 1985]

§ 264.302 Double-lined landfills: Exemption from Subpart F ground-water protection requirements. [Removed]

[264.302 removed by 50 FR 28742, July 15, 1985]

§264.303 Monitoring and inspection.

(a) During construction or installation, liners (except in the case of existing portions of landfills exempt from §264.301(a) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

[Former 264.303(b)(2) removed and (3) and (4) redesignated as (2) and (3) by 50 FR 28742, July 15, 1985]

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

§§264.304-264.308 [Reserved]

§264.309 Surveying and recordkeeping.

The owner or operator of a landfill must maintain the following items in the operating record required under §264.73:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

(Approved by the Office of Management and Budget under control number 2050-0007)

[264.309 amended by 50 FR 4513, January 31, 1985]

§264.310 Closure and post-closure care.

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) Provide long-term minimization of migration of liquids through the closed landfill;

(2) Function with minimum maintenance;

(3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in §§264.117-264.120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under §264.117). The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

[264.310(b)(2) removed and former (3)—(6) redesignated as (2)—(5) respectively by 50 FR 28742, July 15, 1985]

(2) Continue to operate the leachate collection and removal system until leachate is no longer detected.

(3) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of Subpart F of this Part;

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(5) Protect and maintain surveyed benchmarks used in complying with §264.309.

(c) During the post-closure care period, if liquid leaks into a leak detection system installed under §264.302, the owner or operator must notify the Regional Administrator of the leak in writing within seven days after detecting the leak. The Regional Administrator will modify the permit to require compliance with the requirements of Subpart F of this Part.

§264.311 [Reserved]

§264.312 Special requirements for ignitable or reactive waste.

(a) Except as provided in paragraph (b) of this section, and in §264.316, ignitable or reactive waste must not be placed in a landfill, unless the waste is treated, rendered, or mixed before or immediately after placement in a landfill so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under §§261.21 or 261.23 of this Chapter; and

(2) Section 264.17(b) is complied with.

(b) Ignitable wastes in containers may be landfilled without meeting the requirements of paragraph (a) of this section, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in nonleaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other noncombustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain or other wastes which may generate heat sufficient to cause ignition of the waste.

§264.313 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see Appendix V

of this part for examples) must not be placed in the same landfill cell, unless §264.17(b) is complied with.

§264.314 Special requirements for bulk and containerized liquids.

[264.314 title amended by 50 FR 18374, April 30, 1985]

(a) Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to May 8, 1985 only if:

[264.314(a) introductory text amended by 50 FR 28742, July 15, 1985]

(1) The landfill has a liner and leachate collection and removal system that meet the requirements of §264.301(a); or

(2) Before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with an absorbent solid), so that free liquids are no longer present.

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not absorbents have been added) in any landfill is prohibited.

[New 264.314(b) added and former (b) redesignated as (d) by 50 FR 28742, July 15, 1985]

(c) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods." [EPA Publication No. SW-846].

[264.314(c) added by 50 FR 18374, April 30, 1985]

(d) Containers holding free liquids must not be placed in a landfill unless:

(1) All free-standing liquid: (i) has been removed by decanting, or other methods; (ii) has been mixed with absorbent or solidified so that free-standing liquid is no longer observed; or (iii) has been otherwise eliminated; or

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in §264.316 and is disposed of in accordance with §264.316.

(e) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Regional Administrator, or the Regional Administrator determines that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in §144.3 of this chapter.)

(The reporting and recordkeeping requirements contained in this section were approved by OMB under control number 2050-0037.)

[264.314(e) and OMB No. added by 50 FR 28742, July 15, 1985]

§264.315 Special requirements for containers.

Unless they are very small, such as an ampule, containers must be either:

(a) At least 90 percent full when placed in the landfill; or

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

§264.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR Parts 173, 178, and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR Parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of absorbent material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

(c) The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with §264.17(b).

(d) Incompatible wastes, as defined in §260.10 of this chapter, must not be placed in the same outside container.

(e) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in §261.23(a)(5) of this chapter, must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packed in accordance with paragraphs (a) through (d) of this section without first being treated or rendered non-reactive.

§ 264.317 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

[264.317 added by 50 FR 1999, January 14, 1985]

(a) Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27 must not be placed in a landfill unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this Part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere.

(2) The attenuative properties of underlying and surrounding soils or other materials.

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring requirements.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for landfills managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

§§ 264.318-264.339 [Reserved]

Subpart O—Incinerators

§ 264.340 Applicability.

[264.340(a) revised by 50 FR 661, January 4, 1985]

(a) The regulations in this Subpart apply to owners or operators of facilities that incinerate hazardous waste, except as §264.1 provides otherwise. The following facility owners or operators are considered to incinerate hazardous waste:

(1) Owners or operators of hazardous waste incinerators (as defined in §260.10 of this Chapter); and

(2) Owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy them, or who burn hazardous waste in boilers or in industrial furnaces for any recycling purpose and elect to be regulated under this subpart.

[264.340(a)(2) revised by 50 FR 49202, November 29, 1985]

[Sec. 264.340(a)(2)]

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